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GOOD OLD-TIME IDEAS OF SOUND MONEY.

THAT the general depression in business of the last three years has its basis in the fear of unsound financial legislation is generally admitted. The fact that the rubber trade at large has been prosperous when other ndustries have been paralyzed, is no reason for lack of interest in the general trade aspect. In the long run the rubber trade is good in proportion as other industries are prosperous. Hence it is that to-day the progressive rubber men are quite as ready to talk sound money as crude rubber; which leads up to a glance at the financial ideas of the framers of our constitution.

The founders of the United States government seem to have had right ideas about money, as they had about most other subjects with which they had to deal. For instance, they evidently regarded the metallic value of money as the true basis of its legal-tender value. Among the powers granted to congress by the constitution was that "to coin money and regulate the value thereof, *and of foreign money.*" The inference is justified that foreign coins were then current money here, and that their retention was expected and desired by the people. As a fact, we know that foreign gold and silver were our only metallic currency for several years after the constitution took effect, and until a mint was established by the new government. From Queen Anne's time the "Spanish milled dollar" had been a legal tender in the colonies, and had been practically their standard currency, though the coinage of any country was accepted, at a valuation based upon its content of fine metal. The value of money was "regulated" by the assayer's test and not by the stamp of any government.

Congress showed no haste in creating a mint, since there were examples of states—Holland was one—which had risen to the highest rank in commerce and general prosperity without a national coinage, being satisfied to accept the coins of foreign mints at their intrinsic value. The young republic was short of funds, a mint would cost money, and no reason appeared why the stamp of the United States upon silver dollars should make them any more valuable than the stamp of the Mexican or the Peruvian mint. But a feeling of patriotism and a desire for uniformity in the coinage did lead congress in time to set up a mint for impressing the national stamp upon money, though foreign specie long continued to circulate here to a greater extent than the new coins. As late as 1830 only one-sixth of the specie in the United States bank was of American coinage. Congress ceased to "regulate the value" of foreign coins, one after another, until only the "Spanish milled dollar" was recognized as a legal tender, and the coins from Mexican and the other Southern mints ceased to be "Spanish" after their governments had become independent of Spain. Gradually, therefore, we came to have a coinage wholly our own, a fact which, while gratifying to the national pride, was not once referred to in the state papers of the first half of the century as making our money worth any more than formerly.

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Another reason why congress in the earlier years was in no haste to engage largely in the business of coining money was thus tersely stated in a senate document sixty-five years ago:

Gold and silver, whether coined or not, are viewed in the commercial world as bullion, and valued according to their quantity of fine metal. The stamp of the United States adds nothing to the value of precious metals abroad, and, as it is a costly impression, it should be applied only when necessary to the public convenience. But how is the public convenience promoted by the coinage of silver, which passes temporarily into the vaults of the banks, and is soon afterwards again melted by refiners in foreign states?

The idea was that only so much money should be coined as seemed to be required in ordinary domestic transactions, while a heavy expense would be avoided by leaving uncoined the gold and silver needed for settling the balances in foreign trade, then always against the United States.

As one more evidence that our earlier statesmen did not believe that the government stamp gave value to a coin regardless of its intrinsic worth as metal, it may be mentioned that Alexander Hamilton—in his report upon the organization of a mint, which was adopted by congress—pointed out the variability of money standards, and showed that a single standard had advantages, in this respect, over a double standard. Though inclined personally toward a single standard of gold, he did not insist upon this point; the commercial world had not then declared in favor of gold. A quarter of a century later a senate committee reported that the ratio of 15 to 1 had been too low a valuation of gold in Hamilton's time, and that the disproportion had become still greater, for "during the last three hundred years gold has, with some temporary exceptions, been gradually advancing in value." It was added that "for more than one hundred years before England rejected silver as a legal tender in large payments, she had already done so in practice."

These references to the past are offered as a protest against the assumption that the worldwide problems of silver coinage date from and are due to some particular act of the United States congress only a few years back. There were great silver-producing countries before we had an existence, and there have been greater silver-using countries than we ever were. The problems which will confront the next international monetary conference would be the same if the United States should meanwhile be blotted from the map.

Yet the United States are concerned, and for this reason the history of silver has its value to us. As a nation we need now and then, with the aid of our supreme court, to revert to the constitution, in order not to lose sight of the principles upon which the government was founded. In like manner it would be well to look to the teachings of the founders before adopting some of the monetary ideas now advanced. One of these is that the purchaser of 1000 ounces of silver in the New York market for, say, $670 in gold, should be privileged to go to the nearest mint and get it coined—free of expense to himself—into 1292 bright dollars, which people would be forced to accept on a par with gold coin. This is the gist of the proposal for the free coinage of silver, as we understand it, and there could scarcely be a wider departure from the original policy of the government, under which the most careful tests were employed in order that the gold and silver money should have the same intrinsic value.

How long would our rubber-manufacturers be content under an act of congress by which any broker, receiving their order for fine Pará rubber at 74 cents, could substitute Mangabeira gum which had cost him only half as much? Yet why should silver be artificially forced up in price by the government any more than Mangabeira rubber? The mere suggestion of such a thing, so often made in earnest, explains why the United States government has to borrow at a much higher rate of interest than Great Britain, although it always has been our practice to repay government loans, while the British idea is never to discharge the principal of the national debt, but only to pay the interest on it.

LARGE SALES OF EUREKA FIRE HOSE.

THE Eureka Fire Hose Company, 13 Barclay street, New York, have just issued a handsomely printed and illustrated circular which fairly bristles with information as to the manufacture and wide-spread introduction of their celebrated brands of fire hose, the "Eureka," "Paragon," and "Red Cross."

The most interesting statement in the circular is contained in the following words:

A RECORD OF FIRE HOSE SALES NEVER EQUALED

By any Fire Hose Manufacturers in the United States; also showing the continuous repetition of large orders from many of the leading Fire Departments of this country, viz.: 990,700 feet of "Eureka" and "Paragon" Fire Hose sold to sixteen Fire Departments, which if coupled together would make a line of Fire Hose nearly one hundred and eighty-four miles long.

NAME.	FEET.	NAME.	FEET.
New York City	122,300	Washington, D. C.	38,500
Philadelphia, Pa.	173,200	St. Louis, Mo.	39,800
Pittsburgh, Pa.	147,000	Indianapolis, Ind.	25,000
Buffalo, N. Y.	86,750	Jersey City, N. J.	16,700
Chicago, Ill.	86,550	Allegheny, Pa.	14,000
Brooklyn, N. Y.	87,300	Seattle, Wash.	10,000
Detroit, Mich.	58,750	Baltimore, Md.	23,550
San Francisco, Cal.	31,300	Cleveland, Ohio.	10,000

We also give below a list of twelve of the above-named cities which have purchased 86,350 feet of the "Eureka" and "Paragon" Fire Hose from January 1st, 1894, to January 1st, 1895.

NAME.	FEET.	NAME.	FEET.
New York City	10,000	Washington, D. C.	2,000
Philadelphia, Pa.	22,650	St. Louis, Mo.	1,000
Pittsburgh, Pa.	19,000	Indianapolis, Ind.	2,500
Buffalo, N. Y.	5,000	Jersey City, N. J.	2,500
Chicago, Ill.	3,700	Allegheny, Pa.	6,000
Detroit, Mich.	2,000	Cleveland, Ohio.	10,000

In another portion of the circular a large page 8 by 11 inches of closely printed type is devoted to a mere enumeration of the cities and towns in the seven states of New York, Pennsylvania, New Jersey, Illinois, Ohio, Michigan and California that have purchased their brands of hose. The study of such a list makes one marvel at the industry and money it must have cost to introduce a line of manufactures so widely. In other respects also the circular is a very interesting one, and the Company will take pleasure in mailing it free on request.

THE Hartford Rubber Works, Hartford, Ct., are running twenty-four hours a day and are still behindhand with their orders.

HOW PNEUMATIC TIRES ARE MADE.

By John T. Grierson.

THE general public, and indeed many who market rubber tires, have but a misty idea of the manner in which they are made. It has been the feeling among the progressive rubber manufacturers that the more the handlers and users of rubber goods know about them, the better would be the business, particularly in high quality goods. This word of introduction is my excuse for accepting the invitation to describe briefly the manufacture of tires.

India-rubber is the dried or coagulated sap of a tree. The best rubber, for there are hundreds of kinds, is the Pará, and to the credit of the tire makers it should be said that nearly all of them are users of it. This rubber, when received in its crude state, is first soaked in hot water to soften it, and then run many times through corrugated rolls, being sprayed with water the while to cleanse it, and form it into sheets. It is then hung in a warm room, sometimes for months, to dry and season. The process that follows drying is the compounding or mixing. The sheets of rubber are wound around large hollow steam heated rolls, running close together, one a trifle faster than the other, to give a friction or kneading motion, and while thus running the various ingredients are forced into the softened gum. Of the ingredients used sulphur is the most essential, for that combining with the rubber effects vulcanization. There is oftentimes an expressed wish on the part of tire purchasers that they be assured that they are getting only "pure gum"; that is rubber with the simple addition of from 6 per cent. to 10 per cent. of sulphur. This assurance is often given, but as a matter of fact they neither need nor do they receive pure gum. India-rubber has the curious quality of assimilating almost all kinds of earths, metallic oxides, and even vegetable substances. From these it borrows various qualities that are oftentimes of great advantage. For instance certain ingredients used in hose help the rubber to resist oils, others assist in delaying the destructive action of acids, hot water, etc. Some earths give a soft putty like consistency, while others make a compound hard and only slightly elastic. All of these peculiar attributes that rubber may take on are known to the manufacturers, and it is safe to say that to day only a few adulterate tires for the mere sake of cheapening them. They do not use pure gum, in the strict sense of the term, for the reason that it would not last as well as rubber combined with a percentage of metallic oxides that will give it better wearing qualities, and while not affecting its resiliency, will keep it from tearing. It is safe to say that there is not one successful manufacturer of tires to-day in the world, who has not in spite of all his experience in the compounding and manipulation of rubber, been forced to try hundreds of experiments, and learn by actual experience exactly what rules should be followed to enable him to turn out tires that should give first class service.

After the rubber is mixed the next step is to put it in shape so that it can be made up, and the first thing is to get it upon the fabric that forms so important a part of the tire. For this purpose it is taken to the calender, a massive machine in which are steam heated rolls, that not only smooth the rubber out in a thin and even coating upon the cloth, but also drive it between the meshes so that every space is filled with gum. It should be borne in mind that the strength of the tire depends largely upon the fabric. Its elasticity, its air and waterproof qualities, come from the rubber.

The rubber-coated fabric as it comes from the calender is next taken to the cutting room where it is cut into strips, and from there it goes to the making up departments. Here it is shaped roughly like the finished tire. Where any points are to be joined, rubber in a benzine solution is used as a cement. Forms are used for the making up, that allow the workman to give it its general shape. Its final finish is given by pressure during the vulcanizing. There are two different methods for this, one which is practically a dry heat. That is where the tire is put in a large ring-like mold and expanded so that its surface is pressed against the inner mold surfaces; another where the cover is cured, flat or rounding on the surface of the drum. In the latter case the rubber is kept from losing its shape during the cure by being wound with cloth. This style of cure is the open steam heat, and is now widely practiced partly because it is less costly than it is to make molds, and partly because of the prevalent belief that open steam cures give a tougher rubber than do the dry cures. Speaking of the curing it may be well to realize that this process either makes or mars the tire. Too high a heat will burn the rubber and greatly shorten its life. Workmen judge the amount of cure by the smell of the rubber and also by the "bloom." It is safe for the ordinary tire purchaser to decide that if the surface of his tire is covered with a fine yellow-white coating of sulphur, that works out from the rubber a little while after its cure, that it is not burned.

Thus far I have been speaking of the cover to the tire alone. The inner tube however is made up differently. This part of the tire has no fabric, nor does it need the wearing qualities that the cover must have. Hence this can well be pure gum. In preparing the rubber for this the washing, drying and mixing are as already described, except that the metallic oxides are left out. Nor does this gum go to the calender. Instead it is taken to the tubing machine, which is a huge screw revolving in a strong iron cylinder, that draws the gum in at one end and forces it out at the other, in the shape of a continuous tube. These inner tubes may be rolled up by hand, but the machine made are the most common. The cure is effected in the same manner as already described.

Of course there is in every mill a department for inspec-

tion, where all of the tires are most carefully examined. There are also various testing machines, and as a rule the tires of every successful rival in the business have had to show their worth. The riders of tires should appreciate the fact that in producing the pneumatic commercially the rubber manufacturers have solved the hardest mechanical problem that has yet been submitted to them. No one will ever know how many hundreds of thousands of dollars have been sunk in experiments, in accidents, and in replacing tires that when finished were apparently perfect. Because of this hard won success, and because the future development of this business rests upon the attitude of the user as well as that of the maker, the claims for replacement in the case of unsatisfactory tires, should be urged only when they seem just in the light of such knowledge.

RUBBER IN THE CONGO REGION AND EAST AFRICA.

TO THE EDITOR OF THE INDIA RUBBER WOLRD. Every now and then an African traveler points out to the readers of trade papers the great prospects for the American merchant in the Congo region of Central Africa. So does Mr. J. H. Camp, in your April number. The writer does not intend to question the good faith of his statements. From the tenor of his communication, however, it would not appear that Mr. Camp is a commercial man, for no one with practical business experience in Africa would be likely go into the Congo region and "show them (the natives) what a desirable article rubber is." Such a course could not help to create at once the most unreasonable demands on the part of rubber-gathering natives and their chiefs. There is little doubt that this territory will some day be an important field for American enterprise, but the time has not yet arrived when American capital will be extensively put into the valleys of the Congo; in fact there is at present little inducement to do so. The rubber fields are too far in the interior, and the cost of transportation to the coast is still too great to permit the raw material to be a successful competition in the markets. Congress has recently withdrawn further money appropriation for the American commercial agency at the Congo. While this measure may be called short-sighted, it is not entirely unjustified for the time being.

In spite of the many Congo explorers we have still little reliable information about it; that is, reliable from the standpoint of careful merchants, who naturally think a scheme many times over before they will put capital in such an enterprise as the exploration of the Congo rubber forests would naturally involve. Mr. Henry M. Stanley, who may be regarded as the founder of the Congo Free State, has given us the most information at any one time about the chances in the Congo countries.

But the careful merchant will do well to considerably discount Stanley's descriptions whenever they concern commercial possibilities in Africa. Years ago, in a speech of his, in Manchester, England, Mr. Stanley said for instance, that the annual output of ivory from the Congo region *alone* would amount to 400 tons! A short while afterwards, on a similar occasion in Berlin, he stated that 3000 ivory tusks had to be stored at the Congo, because no purchasers could be found. The subsequent years, however, proved that in speaking of the 400 tons, there was either one o too much added to the figure of 400, or the term "annually" was wrongly applied. For 3000 tusks, or about 40,000 pounds of ivory, there could be found certainly buyers, provided the prices were reasonable and the goods anywhere located that permitted a transportation to the coast. But in Africa all things move slowly and the high-tide of the Congo ivory flood may still set in.

If there is any rubber scheme of importance to be mentioned, it is the future rubber trade of the East Coast, including the markets of Zanzibar, Bagamoyo, Quiloah, Lindee, Mozambique and Quillimane. These are established outlets of the product, and the very places, where a strong American combination should gain a foothold as soon as possible. I do not intend to write up a program here, but I say that the eastern coast is at present the most promising locality in Africa for a lucrative American trade. American push, pluck, and manufactures are all wanted there. The half-civilized natives of Hindostan and the Arabs have had intercourse and commercial relations and settlements in East Africa for more than 1000 years back, while the West Coast was taken possession of much later and then by European nations exclusively. This intercourse of many hundred years has produced generations of useful carriers and leaders of caravans, which have attained a high standard of intelligence and also confidence among the more intelligent races. That class of natives is absolutely unknown in West Africa and explains to a great extent the failures of expeditions that were started into the interior whenever they were composed of West African native material. It also explains the fact why Mr. Stanley always secured a shipload of Zanzibaris for his caravans for the Congo exploration. Mr. Stanley also engaged his whole caravan for the rescue of Emin Pasha in 1887 in Zanzibar and brought it per special steamer around the Cape to the mouth of the Congo.

The seeming indifference of American merchants to the growing trade in East Africa is simply incomprehensible. United States Consul Ropes, of Zanzibar, in the volume of "Special Reports on India-Rubber of 1892," says on page 136: "Exports directly to the United States are insignificant, amounting during the year 1889 to only 25,900 pounds, valued at $11,457.88." This is indeed an insignificant amount, but if Consul Ropes had produced the total direct exports to the United States say from 1884 to 1889, the annual average amount would have been entirely different. During the years 1885-1887 the writer exported, for one American concern *alone* by far a larger amount *per month* than above stated for a whole year.

In 1887 the rubber-gathering natives began to practice a wholesale fraud by adulterating the rubber with bark, stones, sand, etc., that while it lasted scared the American exporter entirely away. This defrauding practice has been remedied long ago. When the Germans took definite possession of the Zanzibar mainland coast in 1890, the custom-houses established and enforced rigid rules against these counterfeiters and they succeeded in changing things entirely.

The exports of East African rubbers has been since then as statistics indicate, chiefly to England and Germany, and this seems to account partly for the extraordinary development of the German rubber industry in the last few years.

I repeat it American rubber-men must look first to the eastern coast. There is besides an established market for various American products, capable of great expansion, a market that can bring imports and exports in the right working order.

The raw material is brought into the markets, the native

assuming cost and trouble of transportation himself. The country is opened by the rivaling efforts of the English and Germans and we are able to grasp many of the chances just for watching and using them. This is no wild scheme. Anybody can investigate these statements and I sincerely hope, there will be some enterprising concern who will do it.

CHARLES J. ZINGG.

Farmington, Maine, April 16, 1895.

* * *

ANOTHER LETTER FROM MR. CAMP.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Much remains to be said about African rubber, but thus far none of our people has had an opportunity of looking over the field sufficiently to give a satisfactory report on the subject. Possibly my own experience has been as good, in this respect, as that of any other American, especially in regard to the Congo basin. From what I have seen on the coast, I should think that there is a great deal of rubber near the coast and easily accessible. As for the interior, and this includes the Congo basin, it is simply overrun with the rubber-vines, which seem to receive little attention except in the southern part. There has been no one there to awaken the natives to a realization of the possible value of the products of their forests. I believe that if the proper parties would become interested and would enlist the interest of the natives, a good trade could and would be worked up.

There are few rubber-trees in the Congo country, but wherever I have gone the vines exist, often of great size and reaching to the tops of the tallest trees. The rubber is extracted by the natives by cutting through the bark of the vines with their huge knives, making a series of incisions in a section several feet in length, under which a plaintain-leaf is placed to serve as a trough. The cream-like sap is coagulated either by boiling or by drying. It ought not to be a difficult task to take a few coast natives into the interior and open there rubber camps on a systematic plan, which would be continued by the natives. The great drawback in dealing with the Congo country is the expense and trouble of transportation on the heads of the natives. But on the upper Congo river there is already a good line of steamboats, with 8000 miles of navigable waters in that stream and its tributaries.

If a company of American capitalists should be formed for the Central African trade I have no doubt that permits for trading there could be obtained, and also that good profits would be obtained on the investment. It would require at least $100,000 to start with, including the purchase of steamers, station buildings, and goods for barter, and two years would be required before the first real profits could be expected, but after that time the returns would be continuous, from the trade in India-rubber, ivory, and copper (the latter in a small degree at first). When the Congo railway is opened valuable timber from the interior will come into our markets.

To sum up the whole matter, the rubber of Africa has scarcely been touched yet, while ivory is well gathered and is bought from the natives only at a good or high price, owing to three houses in competition who have their agents in many parts of the country. Sometimes they can get a job-lot from natives at a low price; again a small lot is held for bids among the traders. So it would be necessary to establish stations in new parts which could well be done at hundreds of miles from those now existing.

The Congo climate in some parts is very hard on white people, owing to the malaria and the heat at midday, which is far in excess of the heat at home, but much of the danger can be avoided by temperate living. But I would say to anyone who does not look after his health and live temperately at home, that he had better stay away from Central Africa. It seems that the average man is subject to that malaria, and a bilious person should never go out there.

I do not know just what arrangements could be made with the Belgian government to get a permit to operate in the Congo Free State. But I do believe that they would readily admit on proper terms such a company as I have proposed. When once admitted a company would be given all the protection that the government could give. My experience with the natives in all parts has been most satisfactory. One going out to trade with them must be provided with goods for bartering with the natives, such as calicos, muslins, blankets, and, in fact, any kind of cloths; also Nos. 14 and 16—also Nos. 7, 8, and 9—brass or copper wire, tin plates and dishes, beads of all kinds, and many other cheap goods. What will not sell in one district may be just what is wanted in another. I will gladly correspond with any one who may want information on Central Africa in any way.

J. H. CAMP.

Lima, Ohio, April 15, 1895.

* * *

NOTES BY THE EDITOR.

MR. CAMP is right in saying that much remains to be said about African rubber, and we will be glad to obtain any facts that can be had from authentic sources. We should like particularly more accurate and later reports than have yet appeared regarding the amount of rubber shipped from the ports named by Mr. Zingg. The latter gentleman, by the way, seems to have overlooked the fact that much more rubber still comes from the West Coast than from the East Coast of Africa, and that it comes—for the most part—from points farther inland, showing that the system of porterage on the West Coast is at least sufficient for the needs of the country.

Next to Brazil the greatest rubber-producing country is Angola, on the West Coast, just south of the Congo. The amount shipped exceeds 4,000,000 pounds a year, of which a considerable amount comes from the port of Loanda. Mr. W. Clayton Pickersgill, an Englishman who recently penetrated that country, reports that no rubber is found nearer than 300 miles from Loanda, but it is all carried for that distance or further, on the heads of natives.

THE INDIA RUBBER WORLD has lately been favored, by the British colonial secretary at Accra, with official statistics showing the growth, within a few years, of rubber exports from the Gold Coast from nothing up to nearly 3,500,000 pounds a year. A recent visitor to our office from the coast says that all the rubber comes from points far inland, on the heads of native porters. The "bush" is an unknown country to the dwellers on the coast, few of whom have ever seen a rubber-vine.

While the Congo output of rubber may not be large up to date, it has increased every year and the amount is creditable to those engaged in the business, considering the obstacles to navigating the Congo river. As for the ivory mentioned by Mr. Zingg, the sales at Antwerp increased from 14,109 pounds in 1888 to 583,117 last year, the increase being due largely to the growth of Congo exports.

As for rubber exports from the East Coast, we have reports for 1884 from the custom-houses of Mozambique as follows:

	Pounds.		Pounds.
Ibo.....	89,395	Inhambane	54,343
Mozambique.....	143,497	Lorenzo Marquez....	11,277
Quillimane.....	30,276		
Chiloane.....	14,597	Total	343,385

From Zanzibar we have reports of total rubber shipments of 491,680 pounds in 1891 and 333,480 pounds in 1893. England alone last year imported 1,727,184 pounds of East African rub-

ber, but of this three-fifths are credited to Madagascar. The failure thus far of the Imperial British East Africa Co., whose hopes depended in part upon developing a rubber trade, will probably discourage others from entering the same field soon. On the other hand, as already shown, the West Coast rubber production is steadily growing, with the advantage of regular, prompt, and frequent steamer services for mails and freight, and a slighter distance from the United States.

As for teaching the natives to gather rubber, as suggested by Mr. Camp, the thing is not so chimerical as it seems. No doubt rubber-gathering in Angola started actively from the efforts of J. J. Monteiro, the Portuguese traveler and writer, in teaching the natives to handle rubber. One of the Belgian companies now working concessions in the Congo basin has in its employment a New Yorker, Mr. Warren Unckles, who has been employed to teach the natives the Central American methods of rubber-gathering, in which he is assisted by a party of Central American natives.

DEATH OF A WELL-KNOWN SALESMAN.

THE rubber trade are united in their expressions of regret over the death of Mr. William H. Corner, Jr., who for years past has been identified with the Boston Rubber Co. Mr. Corner died on Tuesday, April 9, in the thirty-fourth year of his age. He was on his way to California where he had hoped to regain his health which had already been seriously impaired, and stopped at San Antonio, Texas, where he was attacked by heart failure, and after a few brief hours of suffering passed away. The funeral ceremonies were observed at his father's house in Baltimore, the 12th inst., large numbers of friends in the rubber trade attending. Among those present from Boston was Mr. F. C. Hood, Secretary of the Boston Rubber Co. The employees of the Boston Rubber Co. sent as an expression of their regard and regret a magnificent cross of Easter lilies that completely covered the casket. The friends in the rubber trade in Baltimore sent a most fitting token, a floral device in the shape of a bell. Mr. Corner had been identified with the Boston Rubber Co. since August, 1888, and had charge of their business in New York, Philadelphia, Baltimore, and the South. He was an exceedingly enthusiastic salesman, was very popular with the trade and was among the few who are always ready to state things exactly as they are and was the soul of geniality. For some time previous to his illness Mr. Corner wrote for the department in THE INDIA RUBBER WORLD, entitled "Salesmen On and Off the Road," and did exceedingly good work. The direct occasion for his breakdown was a severe cold contracted in December, 1893, followed by another in January, 1894, which he seemed unable to shake off. In attempting this he took a trip through the South last spring but was taken with hemorrhage of the lungs in Cincinnati, since which time he has never been well. His loss is keenly felt by a wide circle of friends both in the business and social world.

WILLIAM H. CORNER, JR.

RUBBER SKATES FOR ARMY USE.

IN those countries in which great standing armies are maintained the question of the best method of moving large bodies of unarmed troops is of constant interest. The bicycle has been suggested, but not yet widely adopted. More recently attention has been attracted to the rubber-tired roller-skate, one specimen was which has been illustrated lately in THE INDIA RUBBER WORLD. On this subject there is an article in the English *United Service Magazine*, by Colonel N. Fox, from which we quote:

"From what I have seen of the rubber skate for common roads I think that we have here the best solution that has yet been found for the rapid movement of infantry. I have not yet had the opportunity of subjecting it to a crucial experiment as to durability. I entertain, however, no doubt that men with very little training in the use of the skate, and with the same amount of physical training as the infantry generally now receive could move over roads in good condition at three times the pace of ordinary infantry moving over the same roads. Without any undue strain on the men they could pass over eight miles at least in the hour and keep it up for forty miles a day. For a forced march they could with light equipment do fifty miles in the day. Where the ponies or the bicycles have to be left behind, the skater simply takes off his skate in a few seconds and straps it over his shoulder. The skate consists of a rather high frame strapped on to the foot in the ordinary way, and of two small rubber cycles under each foot. Movement is very simple and easy. The cost of replacing them would be small. The present price of the skate is about £3. Spare rubber wheels can easily be carried. I have no doubt that, with roads in good order, a brigade of infantry could move down from London to Brighton, allowing for halts, in about six hours, and do it with no more exertion than would be required for an ordinary day's march of twelve miles."

THE Middlesex Rubber Co. (Middletown, Ct.) have opened an office in the Postal Telegraph Building, New York.

MISCELLANEOUS FOREIGN NEWS.

THE following paragraph has been widely circulated and has aroused considerable interest :

At this time, when some rubber factories are closed, and attention is otherwise called to that staple, mainly produced in Spanish America, it may be interesting to hear of a possible competition from an unexpected place. It is reported in the Paris papers that a process has been discovered in France to extract from an herb or grass very common there a rubber analogous the article already known. The botanists call that plant or herb *sonchus oleaceræus*, and it grows everywhere and abundantly upon French soil. It furnishes, when treated chemically, an elastic substance, possessing all the characteristics of rubber.

The herb here spoken of is what is known as the Sow Thistle or Hare's Lettuce, and is known to botanists as *Sonchus Oleraceus*. There are about thirty species of the herb, and while its home was originally in Europe or possibly Central Asia it now grows wild the world over. There are certainly four species growing as weeds in the United States. It is described as a smooth herb, bearing small yellow flowers, and having a white milky juice. It is extremely improbable that it has any value as a rubber producer.

* * *

RUBBER MOVEMENT IN FRANCE.

IMPORTS of India-rubber and Gutta-percha in France during 1894 were larger than in any former year, having amounted to 11,132,324 pounds. The exports also increased, but not so much but that a greater amount than since 1891 remained for home consumption. The official statements of the deliveries for home consumption follow :

	Pounds.
During 1894	7,563,327
During 1893	6,546,518
During 1892	6,678,674
During 1891	7,617,639

A slight increase is shown for the year in the amount of exports of manufactures of India-rubber and Gutta-percha.

* * *

THE PERUVIAN CAUCHO-TREE.

CONCERNING the grade of rubber known in our markets as "Peruvian caucho," a little book sent out to the trade recently by R. F. Sears and Co. (Pará), contains some facts of interest. Whether or not this gum is the produce of the *Castilloa* species is not stated, although the caucho-tree is said to have nothing in common with trees yielding fine rubber. It is possible that the tree here referred to belongs to the *Lobeliacæ*, mentioned in a late article in THE INDIA RUBBER WORLD on some experiments by Mr. John H. Cheever, on "The Extraction of Rubber from Minor Plants." The caucho is gathered by cutting down the tree at the roots, and bleeding it immediately by making as many incisions as the size of the trunk permits. The milk falls to the ground through the cuts made, and the coagulation is effected with the aid of lime or potash. After a few days the ribbons of rubber thus formed are collected and pressed into larger masses, which are then ready for market.

The cutting down of the caucho-tree, it seems, instead of being wasteful, is considered the most economical method of gathering the gum. A larger yield is obtained at once by this means than could otherwise be gained, perhaps by years of tapping. "The year after the caucho-tree has been felled the trunk throws out new shoots which grow with such vigor and rapidity that in five years the tree can again be felled and the gum extracted." With the rubber-tree it is entirely different, since it is incapable of throwing out shoots, and, once cut down, the entire plant is killed.

As for the source of caucho, the Florida and Rinconda rivers, in Peru, are mentioned as the seat of the principal operations of the gatherers.

* * *

SUCCESSES OF A RUBBER PLANTER.

A REPORT from the United States minister to Central America states that the very large and valuable concession of lands which was granted to Mr. Minor C. Keith, by the government of Costa Rica, in aid of the construction of a railroad from a point on the present railway, which connects San José with Port Limon, to a point on the river Trio near its entrance into Lake Nicaragua, has been negotiated in London, and that the money for building and equipping the road has been pledged. This opens up to settlement a new and valuable section of Costa Rica, which will, however, be chiefly owned by the London syndicate.

The success of Mr. Keith—who, by the way, is a citizen of Brooklyn, N. Y.—recalls attention to his success as a rubber planter. He has upwards of 25,000 rubber trees, planted between nine and ten years ago, comprising two good-sized "farms," not far from Port Limon. Two prizes offered by the government some time ago for the best and second best rubber plantation were both awarded to Mr. Keith. They amounted to $8000 and $5000, respectively.

* * *

GUTTA-PERCHA IN THE PHILIPPINES.

IN one of the early volumes of THE INDIA RUBBER WORLD was reported the discovery of a good quality of Gutta-percha in the jungle on one of the Philippine islands, which lie north of Borneo. A recent British consular report from Manila, the chief port in the archipelago, says :

"For a few years a good business was done here in Gutta-percha, but, owing to the adulteration of the article by Chinese, the trade has been entirely killed, and almost no business has been done for two years."

* * *

RUBBER SHOES IN CANADA.

THE samples for next season's trade will show a marked development in the rubber-shoe industry. We understand all the companies are making an effort to excel in brightness of design, adding many new lines to their list. There will be considerable rivalry amongst the different companies in pushing the merits of their goods, and inducements will probably be made much stronger than usual to secure trade. The supply of rubber shoes is now rather in excess of the requirement of the country, and the competition is sure to grow keener each season.—*Canadian Shoe and Leather Journal.*

* * *

AMERICAN RUBBER SHOES IN EUROPE.

THERE is a letter in a late *Boot and Shoe Recorder* in which these statements occur: "I found on my travels in Europe this winter that Austria-Hungary offers a better opening for American rubbers than Germany would. In the former

countries rubber footwear of all descriptions is worn by all classes of people. I was in Berlin from January 20 until February 10, 1895, and noticed on the parade Unter-den-Linden only about half a dozen people, including myself, wearing rubbers, most of them being Americans. Three days later I was in Lemberg Galizia, where I noticed in the Ulica Piekarska, one of the thoroughfares, nearly all the pedestrians wearing rubber footwear of different kinds. Some of them had on felt boots with overs like those worn in the United States. Upon inquiry I learned that all the rubbers there are imported from Russia. I also found the same conditions in Krakan and Vienna, where rubber footwear is worn and all imported from Russia. Therefore I know Austria-Hungary to be a good opening for American rubber footwear, as the American rubber is lighter and cheaper than the Russian."

* * *

BRITISH EXPORTS OF BICYCLES.

NO perceptible effect upon the bicycle trade of Great Britain has followed the decline in American importations. Two years ago England sold to the United States bicycles and tires to the value of $1,001,375, while last year the bicycles fell to $353,720. Evidently important new markets are constantly being discovered and taken advantage of. The value of British exports of bicycles and parts of bicycles for 1894 is officially stated at $6,243,810, as against a value of $5,197,955 for 1893. During the first eleven months of 1892 the figures reached $4,336,535. On one day recently Birmingham shipped 200 bicycles to Russia, 100 to the Spanish government for military purposes, and and 100 to Holland. The fact that two cycling journals are already published in Australia is an indication that a good many English wheels may be going in that direction.

Meanwhile the United States, from being an importer of bicycles, is rapidly becoming an important exporter of them. The shipments during December last amounted in value to $64,181, and were consigned to nineteen different countries, in South America, Europe, and Africa.

* * *

THE RUBBER INDUSTRY IN GERMANY.

THE new buildings of the German Rubber and Gutta-Percha Goods Factory Stock Co. (formerly Volpi & Schlüter), at Berlin, erected during the latter part of last year, are now occupied. The dividend for 1894 was 4 per cent., the rate being the same as for the preceding year. The products are mainly supplies for railroads, and the capital, 1,400,000 marks.

At the general meeting of the Mannheim Rubber, Gutta-Percha, and Asbestos Factory, on February 16, it was resolved to pay at once a dividend of 8 per cent., and to make an extraordinary transcription of 87,000 marks, in addition to the reserve fund provided for by the articles of incorporation. The remaining profit, 725 marks, was carried forward.

The dividend declared on the business for 1894 of the United Berlin-Frankfort Rubber-Goods Factories was 8 per cent., the same as for the previous year. This is a mechanical-goods company, capitalized at 1,200,000 marks. Their factories have been r in of late at full capacity.

The Rubber-Goods Factory of Voigt & Winde, at Berlin, reported a dividend out of the profits for 1894 of 8 per cent., as against 7 per cent. in the preceding year. It is capitalized at 1,000,000 marks. The reason for the falling-off in profits lies in the low prices which have prevailed for manufactured goods, the growing keenness of competition, and the prostration of certain industrial interests.

An exceptionally good showing is made by the Hanover Rubber Comb Co., a joint-stock company. Their profits for 1894, after ample provision had been made for the usual reserves, permitted a dividend of 21 per cent. to be declared. The dividend for the preceding year amounted to 17 per cent.

* * *

ANTWERP AS A RUBBER MARKET.

ANTWERP appears destined, says the *Mouvement Geographique* (Brussels), to become the principal *entrepot* on the European continent for India-rubber and ivory. This prospect is the more likely to become realized on account of the intimate connection of the Kongo Free State with the Belgian government, one result of which has been the establishment of regular steamer services between the two countries, with direct mail communication and suitable banking facilities. The growth of the rubber receipts from the Kongo is shown by the figures for 1889 and 1894, respectively: 4½ tons for the former year and 270 tons for the latter.

A single steamer arriving at Antwerp on March 30 brought 94,600 pounds of Kongo rubber, while one of the steamers in the preceding month arrived with 158,400 pounds. The total arrivals during the first three months of this year amounted to 295,937 pounds, as against 83,144 pounds for the same period in 1894.

Last year's figures for the total commerce of the Kongo country appear in a late number of the *Bulletin Officiel*, from which it appears that a marked increase has been made in the rubber output, as will be shown by this comparison:

		1893.	1894.
Kongo Free State	pounds	531,646	1,012,878
The whole Kongo basin	"	744,027	1,393,731

Previous to 1893 the largest amount of rubber exported from the Free State in any one year was only 343,946 pounds, while the average since 1886 had been less than 300,000 pounds.

* * *

PREPARATION OF RUBBER IN BEIRA.

ACCORDING to an official statement in regard to the manner of preparation for the market of rubber by the natives of Beira, in Portuguese East Africa, they are ignorant and unpractical. The product from that country brings in the markets of Europe a good price, but, inasmuch as it takes considerable time and money to remove the sticks of wood and other foreign substances used by the natives to gather the rubber on, the merchants in Beira are loath to purchase and export the product. A large portion of the rubber exported goes to England, and the British consul has sent sticks (fingers) of the product to the home office with a view of inducing some manufacturers to have instruments made with which these sticks can be practically slit and the foreign substances economically removed, so that a profit may remain to the dealers at Beira.

GOVERNMENT RUBBER SUPPLIES.

BIDS were opened lately at the Philadelphia depot of the quartermaster's department for supplying the government with 350 pairs of arctic overshoes, No. 8. There was only one bid received, being that of John Tissot, Jr., of New York, offering to furnish the overshoes for $1.65 per pair, which was accepted.

A recent bid of the India Rubber Comb Co. for supplying the Brooklyn navy-yard with 7000 dozen rubber buttons was accepted by the navy department.

In answer to an advertisement for proposals for supplying 210 pounds of rubber packing for the navy-yard at Norfolk, Va., the government received bids ranging from $96.40 to $204.

AN INNER SECRET OF THE RUBBER TRUST.

BY G. TABAN.

"SIXTEEN pints of the juice or sap which makes India-rubber are frequently taken from one tree," says the New York *Morning Advertiser*. I understand that this happens as often as twice a week, and that it is no uncommon thing for six or eight pints to be obtained from this tree in a single morning. It is the only tree of the kind in the world and is jealously guarded by an aged Indian of royal descent, named Huallaga, whose personal property it is. The tree was planted on the day that he was born, at the time of the eclipse of the sun, in 1807. He is the last survivor of the tribe of the Omaguas, among whom La Condamine discovered India-rubber on the upper Amazon, 160 years ago. The old Indian would be the chief of his tribe if any of it still existed.

The rubber obtained from this tree is specially prepared, over the smoke of the finest Manila cigars, for the benefit of the grand mogul of the rubber trust, to whom it is shipped in gold-lined despatch-boxes once belonging to the Incas. This rubber, if it were placed upon the market, would readily bring $4.50 per pound, but it is all consumed in the manufacture of pure-gum shoes that never split, for the use of the inner circle of the rubber trust. The real secret of Mr. Converse's refusal to combine with the other rubber-shoe manufacturers is to be found in a certain dispute over the distribution of old Huallaga's choice rubber.

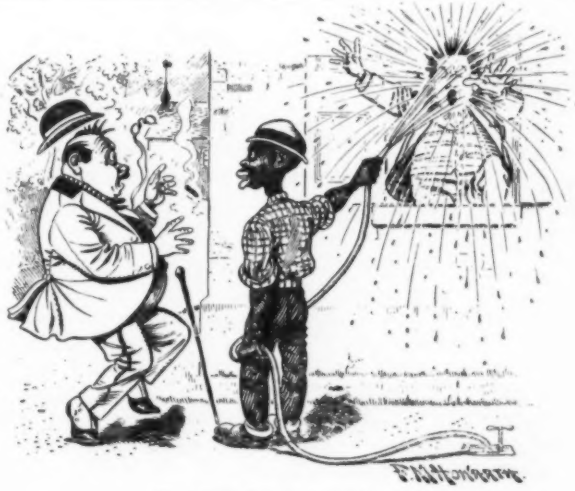
Of course so valuable a product is watched with great care. It is related that, in the younger days of the trust, the disappearance of a particularly fine "biscuit" of this rubber was traced to a young man who had obtained a position in the corporation through favoritism and not on account of a superabundant knowledge of India-rubber. The missing treasure was not far away, however, for he confessed that he had planted it in the ground with the idea of growing a crop on private account. He thought that by this means he might soon make enough money to buy a controlling interest in the company. Instead of being promoted for his enterprise, this bright youth speedily received his *congé*, since which time he has been employed by the New York *Morning Advertiser* to write all of its India-rubber items. It is safe to predict, however, that he will never dare to make known the exact location of the wonderful rubber-tree.

HARD RUBBER AND HOT WATER.

THE pistons in water meters have long been made of hard rubber, that is where the water to be measured was cold. The advantages of rubber over metal were, its lightness, making the resistance less and the registration quicker and more accurate, and further that the friction between rubber and metal was much less than between two metals. For hot water however it could not be used because the heat operated to soften the hard rubber disc, impaired its resilience, and produced a radial expansion which caused the edges to jam against the sides of the water chamber and then warp out of shape. The reason that hard rubber warps and metal does not is because the coefficient of expansion of the former is greater than that of the latter, and a slight elevation of temperature affects it. In the cold water meters there occurred what is known as "accidental hot water," caused by back pressure which destroyed the usefulness of the hard rubber pistons. Mr. Lewis H. Nash, of the National Meter Co., therefore conceived the idea of imbedding a metal ring in the rubber disc near its outer edge to hold it in place when likely to expand. The device worked finely and the pistons no longer were distorted, and on the strength of it he was granted a patent. His company have just reëstablished their claim to this invention by defeating the Thompson Meter Co., whom they sued for infringing this device. In place of a ring the defendant used a thin, flat, perforated disc of metal. The court held that this use was an infringement of the Nash patent.

THE cotton known as "Sea Island," so largely used in the manufacture of bicycle-tires, is a distinct variety. It is peculiarly soft and silky in its nature, much resembling the product of the silk-worm in appearance. The staple is very much longer than that of other cotton, and quite as strong as linen. It has been traced to the little island of Anguilla, in the West Indies, whence it was carried to the Bahama islands. In the winter of 1786 some of the seed procured in the latter place was taken to Georgia and planted by James Spalding (then or afterwards governor), on St. Simon's island. This cotton has continued to yield the best results when cultivated on the southeastern coast of the United States and on the adjacent small islands, although every effort has been made to introduce it into India and other parts of the world.

STRANGER — Can you tell me where Mr Subbubs lives?



THE NEW BOY — Yas, sah! He libs right in dat house dar

—*From "Puck."*

GO-AS-YOU-PLEASE RUBBER NEWS.

TRY as he will to be properly content with his lot in life, there are times when the editor of this journal cannot suppress a feeling of envy. It is apt to be when, after the labor sometimes necessary to get the smallest trade-note correct, he turns to the daily press, whose favored conductors can turn out no end of India-rubber news, with apparent indifference as to whether or not there have been any facts to start with. With the idea that some of the information on the rubber trade supplied by our esteemed daily contemporaries may interest, if it does not benefit, our readers, some recent gleanings in this field are offered here.

First comes an able journal with a long editorial article on the rubber situation, in which the manufactures of India rubber are classified as "shoes, boots, belting, soft goods or fabrics, hard goods or goods under "Goodyear's patents, hose, etc." What facetious rubber salesman, visiting the city where our contemporary is printed, could have amused himself by giving the editor, anxious for knowledge, such an original list of rubber wares?

Next is a daily newspaper's reason—editorially expressed, too—for the recent shut down in some of the rubber-shoe factories:

> They are rapidly closing down and going out of business because of the lack of orders. The goods can be produced cheaper in Europe than in this country and hence the wholesale merchants send to Europe for supplies. * * * It is a good thing for the English, the Belgian, the French, and the German producer, but it is tough on the American! We do not believe there is a college professor in Yale or Harvard who can satisfy the American operative whose children are crying for bread that this is a good thing for his family, although it may be in keeping with the teachings of American philanthrophy.

The idea of the editor just quoted is that the new tariff law has flooded this country with European rubber shoes, for which we have been obliged to send away much gold, and that the American rubber factories will not be re-opened until they have higher protection.

The report comes from Grand Rapids, Mich., that a rubber-shoe factory is being projected there by local capitalists, for the reason that *whiting*, "the chief ingredient used in the make-up of this line of goods," is to be had at that point in unlimited quantities. Besides, "the difference in freights between the manufactured goods and the raw *Gutta-percha* from the Atlantic coast would be nearly 65 per cent."

Of the new rubber-tired carriages in Louisville, Ky., a newspaper of that city says: "These carriages are all the rage in Paris and London, but these are the first that have been brought west."

PNEUMATIC RUBBER MATTRESSES.

A WESTERN Pennsylvania man has patented a new style of sleeping car. Each car is to contain rubber bags of various sizes and designs, some to be used as pillows, some as mattresses, and others as cushions. At nightfall these bags are to be taken from the cupboard and stretched over steel frames. When that is done hot air from the locomotive is to be turned on, and the bags are to be dilated. In a very few minutes the cushions, mattresses and pillows will be inflated for use, and then the porter will put wire screens in position to divide the sleeping sections. In perhaps fifteen minutes the whole sleeping car will be ready for use. The next morning all that it will be necessary to do is to turn off the hot air, and so cause the collapse of mattresses, pillows, and cushions.

The advantages claimed for the new patent are many and various. In the first place there will be a decided lessening of weight for the sleeping cars to carry. Again, the fixtures of sleeping berths take up a very large amount of room which the new patent designs to save. Then the time taken up for preparing the berths and putting them up in the morning is considerable. It is claimed, too, that another effect of the invention will be to do away with much of the discomfort which now seems inseparable from travel on sleeping cars. A soft rubber cushion dilated with hot air ought certainly to be a pleasant substitute for a sleeping car mattress on a cold night, and a soft rubber pillow ought certainly to acquire some popularity which a hard laundered sleeping car pillow has never yet enjoyed.

A GERMAN RUBBER HOOF-PAD.

SINCE the publication of an article on the use of India-rubber in horse-shoeing, we have been favored by Mr. Frederick F. Koester (No. 336 East Eighty-fourth street, New York) with a pamphlet describing a patent hoof-pad invented by Chr. Hartmann and made by the Continental Caoutchouc and Gutta-Percha Co. of Hanover. This inventor is a veterinary surgeon of experience, including a former connection with the imperial headquarters. He regards the iron horse-shoe as a necessity, but not unmixed with evil. By elevating the central portions of the sole from the ground, as is done by the iron shoe, the foot becomes liable to disease. His rubber pad is designed to fill the whole space inside the iron shoe, exerting pressure upon every part of the sole which would touch the ground in a state of nature. Again, the use of the rubber pad prevents the necessity, which otherwise exists in Germany, of replacing the smooth iron shoes worn in summer with roughened shoes in winter, to avoid slipping. The Hartmann pad is not nailed on with the iron shoe, but is furnished with steel clamps which rest between the edge of the shoe and the horse's sole, being applied or removed by means of tongs. It is contended that a shoe which may be removed readily at any time, and yet which will remain firmly in place, is more conducive to the health of the animal than a pad nailed on with the iron shoe, which is never removed except when the shoes are to be renewed. The pads also protect the sole from damage by nails and gravel and from "balling" in the snow season.

ALL of the trade know Chester J. Pike but many of them may not be aware that there is an enterprising young man by the name of Chester J. Pike, Jr., and that he is both an enthusiastic and successful fisherman. The illustration shows him at Billy Soule's camp, Rangely, Maine, just after he had taken, without assistance, two trout with an eight-ounce rod.

WILL INCREASE THE SALE OF RUBBER BELTING.

AT a meeting of the Leather Belting Association of the United States, held at the Astor House in New York on April 17, it was agreed to make an advance of 20 per cent. on the belting list in force since October 1, 1887, the new prices to take effect from April 22. The different concerns represented in the association have issued new lists, accordingly, with the advance applied both to standard belting and to the special brands of each house. The number of firms embraced in the association is twenty-four, and as they are the largest manufacturers in the country, producing—as is claimed—90 per cent. of the total output of leather belting, they may be said fairly to control the trade in this line of goods. The president of the association is Pliny Jewell, the head of the Jewell Belting Co., of Hartford, Conn. An important member is Mayor Schieren, of Brooklyn. No written resolution or other paper was formulated, but the verbal agreement arrived at has been made valid already by the printing of the revised lists above referred to. The discount rate remains as before.

A few figures from the old and the new price-lists for oak leather belting will sufficiently indicate the extent of the advance. Quotations are made "per running foot," and are as follows:

	Old.	New.		Old.	New.
1 inch	$ .10	$ .12	24 inches	$3.54	$4.20
4 inches	.50	.60	32 inches	5.00	6.00
10 inches	1.29	1.56	48 inches	7.80	9.40
16 inches	2.14	2.60	72 inches	13.00	14.40

Mr. F. A. M. Burrell, who is associated with Mayor Schieren in Charles A. Schieren & Co. (Nos. 45–51 Ferry street, New York), has kindly given to THE INDIA RUBBER WORLD this statement of the leather belting situation:

"Since September last there has been a constant advance in the price of hides, due, as we believe, to a real shortage in the supply of cattle.* When our former list was adopted cattle-ranching was still a sort of 'craze' and was a favorite channel for the investment of money. In time it was overdone, however; prices of cattle and hides in many cases fell below the cost of production, and people gradually retired from the business. It is impossible that the shortage in the supply of hides for several months past should have been produced artificially. Meanwhile importations have been stimulated, but, with all the supplies in the world to draw upon, tanners have not been able for months to buy except at advanced prices. Hides lately have cost twice as much as we paid not very long ago. This does not make it necessary to double the price of leather belting, but it does affect our business just as the rubber-manufacturers would be affected by a rise in fine Pará to $1.50 a pound. The era of advanced prices for hides we must expect to last until the natural reaction comes through an increased production of hides, due to these high prices. Such a reaction cannot occur speedily, since large investments of money in cattle-raising will first be necessary, and time is required for new herds to come into existence. Besides, cattle are not bred primarily for the hides, which are a by-product, and come into the market in increased amounts only as the production of meat is increased."

"What effect do you think that the advance in leather will have on the sales of rubber belting?" Mr. Burrell was asked.

"We believe the advantages of leather belting in a majority of cases to be so great that it will be preferred to rubber regardless of price. Of course, rubber belting has its advantages in certain situations. Only last week, on receiving a complaint from one of our customers, we sent a man to investigate the case, and, on finding the mill to be surrounded by water, to which the belting was exposed constantly, we advised the use hereafter of rubber belting. But when we consider the durability of leather, that it is not damaged by oil (as rubber belts are), that it can be cut into narrower strips than rubber, and can be repaired more readily, we think that the advantages are mostly on the side of leather."

In regard to the effect of the change another member of the trade said: "In advancing their lists without changing the discount rate, the belting manufacturers have insured a firmer advance in prices than if the opposite course had been adopted. In either case dealers would have to pay more for the goods, but the general publication of the fact that lists have been advanced prepares consumers for paying more, and dealers can with more confidence insist upon higher prices. Cutting has been going on for some time past, and the new list will help greatly to restore uniformity and stability of prices. Besides, the trouble of becoming accustomed to a new discount rate will be avoided."

The present revision of the leather belting list is the second adopted by the manufacturers since 1873.

At a meeting of leather-belt makers and dealers in leather belting of Chicago, held on April 22, in the office of Charles A. Schieren & Co. in that city, by mutual agreement the new list on leather belt was adopted unanimously. A permanent organization was formed, under the name of the Western Belting Association, of which E. A. Groetzinger was chosen president and W. D. Allen, secretary, for a term of one year. Telegrams were read from Indianapolis, Grand Rapids, and Minneapolis belt-makers in favor of the advance.

* * *

VIEWS OF A RUBBER-MANUFACTURER.

THE advance in a line of goods so important as leather belting cannot fail to have an effect in stiffening the prices of competing goods, though leather and rubber belting really compete to a smaller extent than some people suppose. Leather belting came into use first and has remained in the field largely by right of priority. The introduction of rubber as a substitute has been opposed, not

* At the beginning of the present year the department of agriculture, in its regular annual report of the number of cattle (other than milch cows) on farms in the United States, showed a decrease during three years past of more than 3,280,000.—THE EDITOR.

by valid objections, but by prejudice, which might be overcome to a great extent by concerted action among rubber-manufacturers. I may be asked why my own firm does not make a special effort to educate power-users in the merits of rubber belting. The answer is, first, that by working in lines of less resistance—in supplying demands which already exist for other rubber goods—we keep busy and at a profit; secondly, if we should make greater efforts to introduce rubber belting our competitors would be standing by to reap a great part of the benefit, without having contributed to the expense and labor of our campaign of education.

There is already a large amount of rubber belting sold for purposes for which leather belting is admittedly unsuited. Belting for paper-mills, threshing machines, sawmills, and other plants which are more or less exposed to the elements is generally supplied by the rubber manufacturer. Leather scarcely competes in these channels, and comparative prices of the two materials are not considered. On the other hand, in establishments where the protection of rubber belting from lubricating oils would be impracticable, the use of leather is essential. But in the majority of cases where this argument is urged with regard to oil, I believe that ordinary care would remove the obstacle.

At present prices leather belting costs from 50 to 66 per cent. more than the best rubber belting, while I think it can be easily shown that, with proper care, the rubber is the more durable, to say nothing of its having positively more effectiveness in use, as proved by scientific tests. Of course greater care is requisite to maintain a rubber belt in good condition, but this is more than offset by the advantages which I have just pointed out. Any firm which possessed a monopoly of the rubber-belting trade might confidently undertake to push its sale to the great detriment of the leather-belting houses. But for the reasons already given any single concern may well decline to undertake this work.

One other point must be mentioned in connection with rubber belting—the absence of absolute standards of quality. The constant demand in all lines of trade for lower prices has been a temptation to cheapen the character of products wherever this has been possible. Manufacturers of leather, which is not a compounded product, have been prevented by the very nature of things from adulterating their goods. But, if a single rubber-mill, no matter how unimportant should put upon the market an inferior belt, it might be purchased by a mill owner with such influence that his dissatisfaction with it would injuriously affect the rubber trade for years. The undoubted fact that such rubber belts have gone out into the trade is responsible in part for the prejudice against rubber that I have mentioned before.

ENDLESS rubber belts have advantages in the way of smooth running and in the avoidance of possible trouble at the laps. They are in good demand for threshing and other agricultural machinery, in widths of 6 and 7 inches and lengths of from 120 to 150 feet, generally 3-ply and 4-ply. Endless belts are kept in stock in these dimensions, but orders are taken for any size, up to 50 inches wide.

INDIA-RUBBER CASES IN COURT.

AN important contest has grown up over United States patent No. 493,220, issued March 7, 1893, to John F. Palmer, for a tire fabric. In the October following, R. W. Huss—whose interests have been assigned to H. A. Lozier & Co., bicycle-manufacturers, of Cleveland, Ohio—filed an application for a patent on fabric, which was put into interference with the Palmer patent, the subject matter of the issue being—

a fabric made of elastic and impervious material, such as rubber, having imbedded within the surface threads substantially out of contact with each other.

It has been decided at the patent office that it has been proved that Huss reduced the invention to practice as early as April, 1892, when he made a sample of the fabric, treated it with rubber, vulcanized it, and used a strip from it in making a bicycle-tire. Palmer claims to have conceived the invention in 1891 and to have disclosed it to friends, and, during April, 1892, to have made a piece of fabric and used it in a bicycle-tire. Palmer has the privilege of appeal, but, unless on appeal the decision of the examiner shall be reversed, the result will be the issue of a patent to Huss. Able counsel has been retained on either side, and neither is prepared to give up the case without a struggle.

A SETTLEMENT out of court was reached in the suit brought in the United States circuit court in the district of Massachusetts by T. S. Buck, of New York, against The R. H. Smith Manufacturing Co., of Springfield, Mass., for infringement of his patent on a flexible cushion for rubber stamps. The Smith company made a vigorous defense and defeated Buck in his suit for preliminary injunction, but this did not prevent the latter from prosecuting his suit for permanent injunction and damages. The consideration which finally prevailed, according to the *Commercial Stamp Trade Journal*, was that while the case was unsettled—which might be for a year or more—the trade would hesitate to handle the "air cushion," and that the manufacture of the cushions could be made profitable only through a large sale. Under the compromise reached the Smith company purchased a license to manufacture the cushion-mounts under Buck's patent.

THERE was a report in this journal recently of a decree entered in the suit of the Gormully & Jeffery Manufacturing Co. *v.* Philip W. Pratt, of the Elastic Tip Co. (Boston) and the Eastern Rubber Manufacturing Co., in the United States circuit court in the district of Massachusetts. The suit was for infringement of four wheel-tire patents granted to Thomas B. Jeffery and the decree was for a perpetual injunction. It having been proved to the court later that no proper service had been made upon Mr. Pratt, the decree was, on April 4, peremptorily set aside and the injunction vacated. No service whatever had been made upon the Eastern Rubber Manufacturing Co., and the decree originally reported applied only to Mr. Pratt, their agent in Boston.

THE old-established daily *Straits Times* is a good buyers' directory to the stores and shops of Singapore. It is interesting to note, in a single issue, three advertisements of bicycles (two British and one German), two of India-rubber toys, and one of "A1" red rubber golf-balls. By the way, interest in sports must be highly developed in Singapore, judging from the fact that five columns of the latest *Times* received are devoted to the initiation fee of the local Sporting Club.

BRIEF ABSTRACTS OF RECENT RUBBER PATENTS.

AMONG recent patents issued by the United States Patent Office, embodying applications of India-rubber or Gutta percha to a greater or less extent, have been the following. It is not practicable here to do more than note the use of rubber in each case, with sufficient detail to enable those who are interested to decide whether or not to look into any particular patent more fully:

TIRES.

No. 535,050.—Pneumatic Tire for Cycles. John W. Hall, Birmingham, England.

In a pneumatic tire, the combination of a rim having side channels, an outer expansible cover having a bead at each edge adapted to the channels, an independent air tube, and an independent intermediate cover provided with hoops at its edges adapted to engage with the beads of the outer cover, the hoops being pulled apart by the expansion of the air tube to lock the beads of the outer cover in the channels of the rim of the wheel.

No. 535,198.—Pneumatic Tire. Lucien Barnes, Sr., and Charles O. Barnes, Syracuse, N. Y.

In a pneumatic tired wheel, the combination with the rim, having a concave outer face, of the jacket of the tire having an annular circumferential fold in each of its edges engaging the edges of the rim and extending over it onto the inner face thereof, a pair of non-extensible rings located on the outer face of the rim separable from the jacket and rim, holding the jacket in the aforesaid position, the rings being of smaller diameter than the edges of the rim to grip the edge portions of the jacket thereat by inflation of the air tube, and the rings being of larger diameter than the center of the rim and adapted to be moved toward the center after deflating the air tube to remove the jacket from the rim.

No. 535,206.—Pneumatic Tire. Rudolph W. Huss, Cleveland, Ohio.

In a pneumatic tire the combination of two non-stretchable wires or cords incorporated in the inner side of the tire and connected together at intervals so that the wires between the connected points may be forced apart transversely by the air pressure in the tire, with an elastic web or loose pucker of tire fabric crossing the space between the two wires to retain the air and yet allow of the transverse separation of the wires.

No. 535,341.—Pneumatic Tire for Bicycles. Robert S. Anderson, Toronto, Canada.

In a pneumatic tire for bicycles and wheels the combination with the tire, tube and rim, of a wire coil consisting of a plurality of convolutions enclosed in each tubular edge of the tire and having each end extending through a hole to the outside of the edge between it and the rim and inserted again into the tire, a portion provided on the coil to grip into the edge when the tube is inflated and a gripping sleeve provided on the ends of the coil between the holes to the outside of the edge to provide means for adjustment.

No. 537,099.—Cement-Injector for Repairing Pneumatic Tires. Ernest W. Young, Chicago, Ill.

A cement injector for service in repairing pneumatic tires, comprising a receptacle adapted to contain the cement and provided with a discharge nozzle, a needle adapted for temporary insertion within the nozzle to an extent to cause its sharpened end to project from the end of the nozzle so as to provide the latter with a point, and means for ejecting the cement from the receptacle through the nozzle when the needle is withdrawn.

No. 537,137. Velocipede Tire. Bertram G. Work, Akron, Ohio.

In combination, a wheel-rim provided with a circumferentia groove having eyes, a tire-cover formed with edge flanges containing openings which engage the loops and provided with grooves, grooves in the body-portion of the cover and stay-wires, or the like, run through the eyes at the grooves.

No. 537,188.—Rim for Bicycle Wheels. Albert C. Fairbanks, Somerville, Mass.

A concavo-convex wooden wheel rim composed of layers secured together, and a waterproof fabric sheath inclosing the rim cemented thereon, with its warp and woof extending diagonally of the rim.

No. 535,775.—Vehicle Wheel. Frank P. Shark, Brooklyn, assignor to Elliott Burris, New York, N. Y.

In a vehicle wheel, a peripheral rim provided with a central annular table to support the inner inflatable tube, and with two annular grooves, one each side of the central table, the grooves being of less diameter at their bottoms than the edges of the flanges of the rim and also of less diameter than the central table, in combination with an inner inflatable tube and exterior cover, the latter having its edges provided with inextensible bands or wires of less diameter than the central table, but of greater diameter than the bottoms of the side grooves, and a removable or adjustable platform or support of less diameter than the central table, of greater diameter than the bottoms of the side grooves, and in cross section less than the depth of the side grooves.

No. 535,978.—Pneumatic Tire. Granville H. E. Cooke, London, England.

In a pneumatic tire the combination with an air-tube and an outer cover of a ring adapted to support the air-tube within the arch of the outer cover.

No. 536,363.—Pneumatic Tire. Willard A. Warren, Buffalo, N. Y., assignor of one-half to Melvin F. Warren, same place.

A sheath or cover for pneumatic tires, provided with a lining composed of a double strip of warpless fabric having marginal selvages, an intermediate selvage, and loose weft threads running diagonally from one marginal selvage to the other, whereby, upon doubling the strip, the weft threads of one ply cross the corresponding threads of the other ply.

No. 536,502.—Wheel Tire. Maurice Adler, Amsterdam, Netherlands.

The combination with a wheel rim of a casing composed of two parallel side plates, a band connecting the plates at their outer edges, a running surface tire on the band, cross connections for the inner edges of the plates and elastic bands connecting the cross connections with the wheel rim within the casing.

No. 536,752.—Wheel Tire. Arthur A. Kupfer and Herman C. Kupfer, Providence, R. I.

The combination in a wheel tire having a sheath, with the main tube having overlapping ends, a contracted non-expansible passage and a valve stem connected with such passage, of a supplemental-tube having a valve-stem and temporarily secured to the outer wall of the tube by unvulcanized cement and a securing-strip carried by one end of the supplemental-tube and adapted to be temporarily secured to the opposite end of the tube.

MECHANICAL GOODS.

No. 535,019.—Washer. John H. Pipher and Dudley Stringfellow, Parker's Landing, Pa.

As an improved article of manufacture, an axle washer consisting of an unbroken flat ring, composed of three layers, the central one being fabric and the exterior ones on either side thereof of hard rubber or rubber compound, all vulcanized together, the washer having the plies at its internal and external peripheries substantially coincident.

No. 536,849.—Steam Packing. Arthur W. Chesterton, Boston, Mass.

A steam packing comprising a core of rubber treated with antimony and coated with plumbago and a textile fabric facing the core and having wire woven therein.

No. 536,419.—Flexible Hose Covering. Albert P. Cochrane, St Louis, Mo. assignor of one-half to Elizabeth Cochrane, White Plains, N. Y.

In a hose covering, a ring composed of a diametrically large portion having suitable respective inner concave and outer convex surfaces, a diametrically reduced portion having similar curved surfaces, the reduced portion being narrower than the large portion, the chord of the arc along which the surfaces of the large portion are described being inclined to the axis of the ring, and the chord of the arc of the reduced portion being substantially parallel to the axis, thereby making the large portion, outwardly flaring, with respect to the outer surface of the reduced portion, from the line of juncture with the reduced portion, the curved portions meeting on a circular line radially described in a plane at right angles to the axis of the ring, the line forming an abrupt termination for the outer abutting surface formed on the large portion adjacent to the line, the outer edges of the ring being parallel to the line of juncture between the two portions.

No. 537,318.—Hose and Method of Making Same. Benjamin L. Stowe, Jersey City, N. J.

The method of making seamless woven fabric rubber lined hose, consisting in preliminarily twisting the fabric part of the hose in a direction opposite to that followed by its spirally laid weft or filling and then securing a rubber lining to the fabric while the latter, is maintained in twisted condition.

No. 536,696.—Split Rubber Wheel. William V. Hirsh, Brooklyn, N. Y.

The combination of semi-annular rubber sections having reduced flanges and interlocking dovetail tenons and mortises, with a flanged hub, an annulus and bolts that connect the hub flange to the annulus.

BOOTS AND SHOES.

No. 536,244.—Device for Retaining Overshoes on Shoes. Leon J. Weatherwax, Grand Rapids, Mich., assignor to himself and Nelson D. Edmonds, Chicago, Ill.

The combination with an overshoe, of a coil of spring material having lengthwise extensible and contractible arms secured to the inside of the heel of the overshoe with the coil in position to engage the breast of the shoe-heel inserted into the overshoe.

No. 536,292.—Boot or Shoe. Benjamin A. Pickering, Woonsocket, R. I., assignor of one-half to Nelson Jenckes, same place.

A waterproof boot or shoe comprising an insole of waterproof material, a leg lining lasted over the sole, a filling sole interposed between the edges of the leg lining and connected to the bottom of the insole, a vamp lining and a vamp connected together, an outer sole, a sheet metal plate having depending barbs struck from it and also having an opening, the plate being interposed between the vamp lining and the leg lining and filling sole and the barbs being passed through the vamp lining, vamp, and outer sole, and clinched or turned upon the outside of the sole, a filling sole or plurality of filling soles arranged in the opening, of the metallic plate, and interposed between the edges of the vamp lining and vamp and the top sole connected to the sole.

No. 537,101.—Heel or Sole Plate. Edward W. Alsop, Washington, D. C.

A heel or sole plate composed of the metallic base having the tapering spurs or tongues whose sides and rear ends are under cut, the spurs extending parallel to the outer surface of the base, and a rubber facing secured to the plate by the spurs.

DRUGGISTS' SUNDRIES.

No. 536,732.—Insect Powder Blower. Sidney Meron, New York, N. Y.

An insect-powder blower consisting of an elastic bulb provided with an opening, a filling funnel provided with a nipple and having an annular flange surrounding the same at the base of the main portion of the funnel, the nipple being inserted into the opening, a retaining ring placed over the nipple inside the bulb so as to confine the portion of the bulb surrounding the opening between the ring and the annular flange, and a nozzle inserted into the aperture of the nipple and extending beyond the funnel.

No. 535,968.—Pessary. Walter F. Ware, Camden, N. J.

A pneumatic pessary comprising a circularly disposed air tube having walls of rubber and a yielding diaphragm of thin rubber or the like stretched horizontally between the walls of the air tube and having a central opening.

INSULATION.

No. 536,857.—Means for the Insulation of Conductors of Electricity. Leon Dion, Natick, Mass.

An insulation for electric conductors, consisting of a sheath or cover of rubber and glass balls interposed between it and the conductor.

MISCELLANEOUS.

No 536,625.—Horse-Leg Protector. Andrew D. Headley, Brooklyn, N. Y.

A horse leg protector comprising a wire frame upon which a series of revoluble rubber buffers are strung, the frame being bent to form stops for the buffers and having vertical legs and inwardly extending terminals for attachment between the animal's hoof and shoe.

No. 536,535.—Rubber-Tip and Point Protector for Lead Pencils, etc. Frank McIntyre, Brooklyn assignor to the Eagle Pencil Co., New York, N. Y.

A rubber tip and point protector and pen, consisting of a sheet metal tube open at both ends, a reversible pen tip in one of its ends, and an erasive tablet fitted upon and surrounding the tube at the pen end, and held between the washers fitted upon and secured to the tube.

No. 536,512.—Mechanical Toy. Herbert Crossley and Theodore Birnbaum, London, England, assignors to the B. Birnbaum & Son, Limited, same place.

A mechanical toy composed of a body portion having hollow normally flexed limbs adapted to be extended by inflation and provided with hollow joints that constitute expansible vessels or chambers in the limbs.

No. 536,538.—Cover for Bicycle Saddles. William C. McIntire, Washington, D. C.

As a new article of manufacture a bicycle saddle cover composed of waterproof elastic material, with overlapping flanges to embrace the edges of the saddle, and adapted to be held in position by the contractive action of the material.

TRADE-MARKS.

No. 26,267.—Oiled and Rubber Clothing, Footwear, Horse and Carriage Covers, Leather and Duck Coats, and Boys' Pants and Vests. Henry Werner & Co., Detroit, Mich. Filed March 1, 1895.

Essential feature.—The representation of a stag. Used since March 29, 1894.

No. 26,307.—Flexible Insulating-Tubing to inclose Electric Wires. American Circular Loom Co., Chelsea, Mass. Filed Feb. 6, 1895.

Essential feature.—The representation of a cut length of woven tubing, coiled into the form of a ring with the ends interlaced and projecting a short distance at both sides. Used since June 1, 1894.

No. 26,367.—Hose, Belting and Packing. Bowers Rubber Co., San Francisco, Ca. Filed March 13, 1895.

Essential feature.—The word "Plumbesto." Used since September, 1893.

No. 26,345.—Woven Fabric Hose. Eureka Fire Hose Co., New York, N. Y. Filed Feb. 19, 1895.

Essential feature.—A line or lines of color contrasting with that of the body of the hose and spirally encircling the latter. Used since March 1, 1893.

WOMEN IN RUBBER-FACTORIES IN SCOTLAND.

THE industrial employment of women did not escape the attention of the Royal Commission on Labor, in the voluminous report lately published on the relations between employers and the employed in the United Kingdom. The reports in relation to women's work were written by Miss Eliza Orme, and in one of them—based on a sub-report made to Miss Orme—is the only reference to the India-rubber industry made in the whole series of volumes. The territory covered by the particular report embraces Glasgow and Edinburgh, but the rubber-works visited are not designated by name.* What is said concerning these factories follows:

I—A RUBBER FACTORY.

[Employing over 700 women.]

Men only are engaged in the manufacture of the rubber, the women being employed in making up the rubber cloth into garments such as coats, mantles, shoes, diving-suits, etc. The departments in which women are engaged are follows: (1) Coat room; (2) shoe room; (3) packing room.

In the coat room women are employed in pasting up the long seams, or in sewing them by machine, the latter involving a slightly higher degree of skill than the former. Wages: Pasters average 14*s.* per week (piece), may rise to 20*s.*; machinists average 15*s.* per week (piece), may rise to 22*s.* Apprentices are taken on at 1*s.* per day, and after a fortnight are put on piece-work. It was stated by the manager and by a witness that an average worker requires about a year's training to attain proficiency. All the cutting in this department is done by men.

In the shoe department women are engaged in pasting the various parts together. They make from 12*s.* to 14*s.* per week (piece), and take about a year to learn the trade thoroughly.

In the packing department the women sort, brush, and pack the goods, and have an average wage of 14*s.* per week (piece).

Slack time may last from two to three months in this trade, and is most felt during May and June. It is not customary to pay off any of the girls during slack time, but to employ them in making stock and to shift them about from one department to another, slackness not affecting various branches at the same time, as a rule. This shifting, however, involves a slight loss, as the girls have to learn the work of the new department to which they are transferred.

In the busy season work is sometimes given out to married women, who may have been employed in the trade previously, and who form a reserve force of workers. One manager and some workers expressed strongly in favor of this arrangement, as it obviated the necessity for taking on fresh hands in the work-rooms and paying them off when the slack time came on. The manager stated that a good number among the workers were widows, or married women with bad husbands. He was, however, unable to give the number as no record was kept.

Workers are fined ½*d.* if 15 minutes late in the morning. It is customary for the workers to pay a small voluntary subscription annually to the infirmary. There is a sick-benefit society in connection with the works: subscription 2*d.* per fortnight; benefit 5*s.* per week if sick, on production of medical certificate. No work, no pay, but help is given by the firm in necessitous cases.

The work-rooms are large and airy; good sanitary accommodation is provided. There is a large dining-room with arrangements for cooking and heating food. Screens are also provided for hanging up workers' clothes.

Some information having been received by me regarding injurious effects to health arising from employment in the rubber works, I made strict inquiries upon this point, but could find no evidence in support of these statements. The workers appeared to me particularly healthy, and among those to whom I spoke in going through the works one had been employed there 14 years, another 12 years, and another 30 years. The witness to whom I am indebted chiefly for the information given above had been engaged in the rubber works for over 20 years, and had never suffered herself, or heard of others suffering from anything in the nature of the work. As one witness remarked "delicate girls might suffer there, just as they would elsewhere, from the confinement." I also wrote to a local medical man requesting information regarding the health of women employed in the rubber works.

II—A VULCANITE FACTORY.

[Employing 240 women.]

The women are employed in making combs, collars, and cuffs, the various articles for which vulcanite† is used. Wages run from 8*s.* to 12*s.* per week on the average, and may rise to 16*s.* or 17*s.*

Men and women are employed together in the comb-cutting department, the men receiving about 50 per cent. more wages than the women, but, according to the manager, this was due to the men as their work required more skill, and they also sharpen their tools, which the women do not do. Hand labor is employed in this department, and there is nothing in the work injurious to the health. Women have never displaced men in any of the departments.

The work is irregular during two months or so at the end of the year. Small deductions are made for bad work. It takes an average worker about a month to learn the trade. There is never any scarcity of labor.

I had a private interview with one of the former workers in this factory, who made the following statements:

Her wages for "stripping" vulcanite in the collars and cuffs department were 5*s.* per week, time wages. Her sister, who is now a hemmer in the same department, and is on piece-work, gets from 10*s.* to 17*s.* in the fortnight, the fluctuations being due to irregularity in the supply of work. Time wage workers have 3*d.* deducted from their wages, with a fine of ½*d.*, if absent a whole morning: piece-workers are fined ½*d.* only.

Work rooms are clean and well ventilated, and lavatory accommodation is satisfactory. Witness stated that only men are employed in the manufacture of the vulcanite. She added that the smell from this was very heavy and sickening, and that the girls working in the vicinity of the departments where the process of manufacture went on complained a good deal. The work employing the men in the comb department was very different from and "much more difficult" than that given to the women.

Slack time lasts a month or two during the winter, and girls are not paid off at this time, but come in at 10 in the morning.

*It is probable that the establishments here referred to are the North British Rubber Co. and the Scottish Vulcanite Co., which are neighboring factories at Fountainbridge, Edinburgh. The latter establishment manufactures combs; but the collars and cuffs referred to in the report are undoubtedly made of celluloid.—THE EDITOR.

†See the preceding foot-note.

THE Dickinson Hard Rubber Co., Springfield, Mass., are having quite a sale on buttons for mackintosh manufacture.

THE FOUNDER OF THE NEW YORK COMMERCIAL CO.

MR. GEO. A ALDEN whose name is perhaps as well known as that of any man in the world connected with the rubber interests, is a lineal descendant of John Alden who came to this country in the *Mayflower*, landing at Plymouth in 1620. The father of the subject of this sketch was born in Maine, living in the towns of Union and Hope, and later settling in Bangor where he carried on an extensive drug business. George A. Alden was born April 7, 1830, at Hope, Maine. He was educated in the public schools of Bangor, and after his graduation at the Bangor High School served for a short time in the store of his father. At the age of eighteen he came to Boston and entered the retail department of the drug house of William B. Little & Co., where he remained until 1851, having for a time the charge of that department. From there he went to Philadelphia where he remained for two years in the drug business, after which he returned to Boston entering the same concern as before, which had however been reorganized under the name of George B. Little & Co. He remained with this house as manager until August, 1855, then started in business for himself as a broker in drugs and importer of crude India-rubber. In 1878 his eldest son Adelbert H. was admitted to partnership, the firm name becoming George A. Alden & Co. They soon became the largest importers of India-rubber and goat skins in the United States. In 1880 the firm began the importation of shellac also, under the name of the New York Shellac Co., and soon controlled more than one half of the American imports of that commodity. In 1884 Mr. Alden organized the New York Commercial Co., Limited, with a capital of $600,000, the officers being George A. Alden, president and Adelbert H. Alden secretary and general manager, Charles R. Flint, treasurer. In 1892 so remarkably had this business grown that it was changed to the New York Commercial Co. with a capital of $2,500,000 with George A. Alden, president and Adelbert H. Alden vice president and general manager, and Wallace B. Flint treasurer. The object of this change was not only to more effectively handle the business they then had, but to more extensively carry on the importation of crude rubber. Prior to this change the firm began the importation of cocoa in 1887, and now they are the largest importers in the United States.

GEORGE A. ALDEN.

A further extension of their business occurred in 1888 when they began the exportation of petroleum, lumber, staves and rubber to Spain, Portugal, Russia, Germany, and the Mediterranean ports. For this service they send out on the average of three steamers a month. A very extraordinary feature of Mr. Alden's business career has been his freedom from reverses. The only one of any moment that he has ever experienced occurred during the great Boston fire, when he lost $100,000, but so substantial was his business at that time it did not cause even temporary embarrassment. In addition to the export and import trade which Mr. Alden handles, he is president of the Seamless Rubber Co., and a director of the Revere Rubber Co., the Boston Rubber Co., and the Boston Rubber Cement Co. He is also a director of the National Revere Bank, and treasurer and vice-president of the Colonial Mutual Fire Insurance Co. With all his varied industrial interests Mr. Alden finds time for social life and is a prominent member of numbers of clubs, among which are the Merchants' Club, Boston Athletic Association, Temple Club, Country Club, Boston Art Club, Pine Tree Club, Trade Club and Exchange Club. He is a prominent Mason and a life member of St. Andrew Royal Arch Chapter and De Molay Encampment Knights Templars. For a number of years his residence was in Cambridge, Mass., but for the last six years he has lived in Wellesley during the summer where he has a magnificent estate of 850 acres. Among the curiosities that he has collected are a carriage in which Washington rode at the time of his visit to Boston and a coach which was presented to Daniel Webster. Mr. Alden was married April 21, 1856, to Harriet J. daughter of Elijah Hadley of Charlestown. He has two sons, Adelbert H., who was born May 8, 1857, and George E. born February 28, 1859.

THE DUTY ON GUTTA-PERCHA WASTE.

IN the matter of the protest of Robert Soltau & Co., against the decision of the collector of customs at New York, as to the rate and amount of duties chargeable on Gutta-percha waste, the United States general appraisers have rendered the following decision: The protestants, Messrs. R. Soltau & Co., imported into the port of New York certain merchandise which was assessed with duty at 35 per cent. *ad valorem* as a manufacture of Gutta-percha, and which is claimed to be free as crude Gutta-percha by assimilation as old scrap India rubber, or, if dutiable, at only 10 per cent. as waste not otherwise provided for. The appraisers find that said merchandise consists or scraps or pieces of worn-out Gutta-percha belting fit only fof remanufacture, and is not crude Gutta-percha. There is no provision for classification by assimilation with articles in the free list, but this article would seem to be dutiable under paragraph 472 as waste [at 10 per cent.] and upon this protest the claim is sustained.

Garden or Lawn Hose.

TO KEEP the grass green, the lawn beautiful, the garden thrifty, to lay the dust and cool the air, your customers will soon call upon you for Lawn and Garden Hose. Have you a stock to supply early buyers? We can furnish you with hose that will not burst, will not leak, will not sweat, that will please your customers, keep them pleased, and increase your business. From the different brands enumerated below, we can meet your views as to price and quality.

"1846 Para."—A half century of good service stands behind this hose. It is recognized as the very best in the market, being made from the finest Para rubber and cotton duck woven specially for us. Hundreds of testimonials from the trade and public place its excellence beyond dispute.

"Double Diamond."—A strong, durable hose, warranted to give entire satisfaction. It is carefully constructed of excellent stock, and there is nothing better offered, 1846 Para excepted.

"Carbon."—This brand will render entirely satisfactory service. It is constructed in a superior manner, and gives greater value for the price than any offered by other makers.

"Double Diamond" Cotton Hose.—The fabric of this hose is circular woven, of a heavy and high grade of yarn, and is so pliable that it can be bent or twisted without injury. It is exceedingly strong, will withstand 500 lbs. pressure, and we can safely warrant it not to burst under the pressure of any system of water works. Every length is tested, and if hung up and allowed to dry after use, it will render good service for years.

"Spider" Cotton Hose.—This is of precisely the same weave as the Double Diamond, and while of lighter fabric, will withstand ordinary water pressure and render reasonable service.

"Spider."—Our cheapest quality; is several grades higher than the best competition hose in the market.

NEW YORK BELTING & PACKING CO. LTD

PIONEERS AND LEADERS. NEW YORK CITY.

Goods are best. Prices are right.

A DOZEN MEN TO FIT

A RUBBER SHOE?

YOU —— THE RIGHT SIZE AND WIDTH UPON YOUR CUSTOMER'S FOOT MUST PLACE

AND ELEVEN OTHERS —— ALL SKILLED IN EVERY STAGE HAVE MADE THIS RUBBER SHOE TO FOLLOW THE NEEDLE TOE LINES AS THE GLOVE THE HAND

IF THE MEN'S NEEDLE TOE BERWICK YOU BUY

We are with you from the start, and our skilled workmen aid in making a shapely Rubber Shoe that fits — from heel to needle toe.

THIS IS OUR BUSINESS.

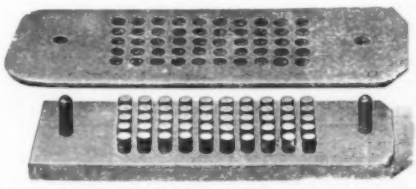
BOSTON RUBBER SHOE COMPANY.

NEW GOODS AND SPECIALTIES.

IN the mining district of which Allentown, Pa., is the center a new patent miner's boot is finding a sale, which is described as consisting of a rubber top, with insole and sole of solid leather. The outsole is studded with flat-headed nails, which are put in and clinched before the sole is attached to the shoe. The rubber portion is made by The L. Candee & Co. (New Haven), and the remainder of the work is done in the large shoe-manufacturing and wholesale house of John E. Lentz, of Allentown, who is the inventor of the boot. It is probable that the features referred to would commend the shoe to the trade in other mining sections.

HARD RUBBER TABLET MOLDS.

DRUGGISTS use a variety of molds for the making up of triturate tablets. Of them all none are more popular than those made of hard rubber. This substance is better than glass for the reason that it is not as likely to break nor is it possible to get minute fragments into the mass. It is superior to metal because it is not attacked by acids or alkalies. Further than this these molds are light in weight, cleanly and comparatively cheap. The No. 10 tablet mold shown in the illustration makes fifty one-grain tablets at a time and is placed on the market by Whitall, Tatum & Co., New York.



THE DART RAIN BOOTS.

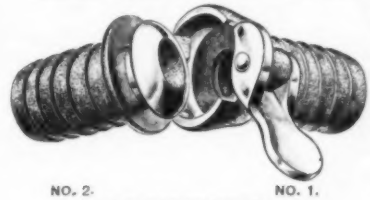
A COMBINED overgaiter and legging is shown in the illustration. It is made of fabric mackintoshed or may be made of cravenette and occasionally a well-known make of waterproof velvet is used. The usual colors are tan, blue, brown, and black. It fits the foot, ankle, and leg perfectly, and fastens below the knee by means of an elastic. It is ventilated by means of perforations at the top, and can be worn either in wet or dry weather with comfort. It is highly recommended by physicians because it prevents colds caught by wet skirts. When not in use it folds in a small package, that can be carried in the pocket. Manufactured by the Dart Manufacturing Co., 1402 Broadway, New York, N. Y.

THE ELASTIC INK-HOLDER.

A VERY neat appliance is the elastic ink-holder shown in the cut. It is made of a fine quality of red rubber and can be applied to any pen in a second. The ink does not affect it, nor does it in any way injure the ink. The advantages claimed for it are that it enables one to write four sheets with one dip; it keeps fountain pens from blotting and prevents sediment or hairs clotting on the pen. Manufactured by C. W. Vose, Chatham, Mass.

THE "ACME" HOSE-COUPLER.

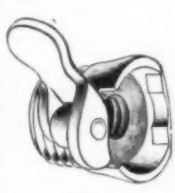
GARDEN-HOSE in use is worn out mainly by the handling which it necessarily or unnecessarily receives, and not to an appreciable extent by any action of the water. The continual twisting to which hose is usually subjected in coupling it tears the fabric, which speedily weakens the hose. It is to obviate this trouble that the "Acme" hose-coupler has been brought out. The illustrations herewith do not do full justice to their subject in the way of showing how simple the coupler is in operation, but the manufacturers offer for a trifle to send serviceable samples to any applicant. No special tools are required for using the "Acme" coupler or the accompanying hose-band; the coupler can be used in connection with old-fashioned couplers; and it is warranted to make a water-tight joint. The cut marked "No. 1" is for new hose. It goes on the end that attaches to the faucet and ground connections (used with "No. 3") and is used (with "No. 2") for connecting two lengths of hose. "No. 2" is also for new hose. It is used on the nozzle end with "No. 4" nozzle-tip, and for connecting two lengths of hose. "No. 3" is for new and old hose. It goes on the faucet, where it may be left permanently; also on the end of the ground-pipe (with "No. 1" and "No. 4") and on old-style coupling, taking the place of "No. 2." "No. 4," for old hose, is used in connection with old-style couplings already fitted; also on nozzles (with "No. 2" or "No. 3.") In the use of all these attachments there is no need to twist the hose in adjusting it. Manufactured by the Adams & Westlake Co., No. 110 Ontario street, Chicago, Ill.



NO. 2. NO. 1.
THE COUPLER DISCONNECTED.

NO 3.

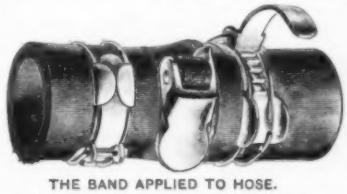
THE COUPLER CONNECTED.



NO. 4.

FAUCET ATTACHMENT.

A. & W. HOSE-BAND.

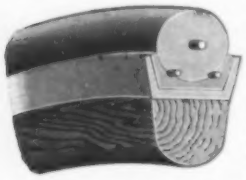


THE BAND APPLIED TO HOSE.

THE RODGERS COMPRESSED CUSHION TIRE.

THE cut shows a cross-section and side perspective view of a vehicle rubber tire in the steel rim, and attached to the wood felloe. The rubber is in two parts—the base part fitting in

cross section the steel rim, and the round wearing part that fits into the concavity of the base, this round part only, coming in contact with the road. The base part is first secured in the steel rim, and in the larger sizes is held firmly by the wires. The round part is then compressed upon a steel core, which holds it securely in the concavity of the base. In addition, these two parts are then cemented together, making them practically one. The round, wearing portion being of less diameter than the base, forms shoulders at the top of the rim, which makes it impossible for the rubber to be crowded over on the edges of the rim, and this enables the use of a much more elastic and resilient quality of rubber than is commonly used. When this round part does become worn, one can turn this worn surface down into the base, and bring the unworn surface into contact with the road, thus securing practically a new set of tires. The base part being inside of and protected by the steel rim, practically wears forever, but when it is necessary to renew the wearing portion this can be done at trifling expense as compared with the cost of replacing the whole tire.



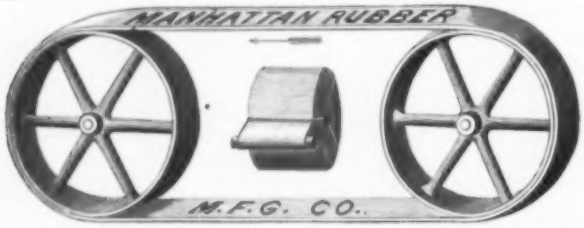
The manufacturers claim for this tire greater durability and economy. They further state that the tire cannot roll out of the rim, that the rim cannot cut the edges, and that they are the handsomest and neatest tires made. Manufactured by the Tricycle Mfg. Co., Springfield, Ohio.

TYRIAN STOMACH TUBES.

STOMACH-TUBES have long been used by physicians, and we here show an illustration of a new one gotten up by a well-known manufacturer of druggists' sundries. They are made of a high grade of rubber, the tube itself being about five feet in length. It is made either with or without bulb as may be desired, and both types are furnished with a rubber funnel, stiffened and reinforced to keep its shape. Manufactured by the Tyer Rubber Co., Andover, Mass.

THE MANHATTAN FRICTIONAL COVER BELTS.

A SPECIAL demand in the trade has of late been well filled by the production of the multiplex belts. These are made of a greater number of plies than are regular rubber belts, and this



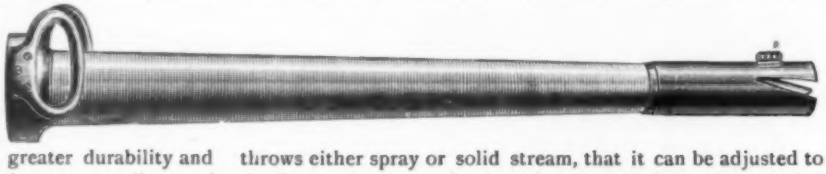
condition is secured by using a lighter duck. A five-ply multiplex is equal to a single leather or to a three-ply rubber belt. The especial point of advantage is that greater strength is combined with extreme lightness in weight. Manufactured by the Manhattan Rubber Mfg. Co., 64 Cortlandt street, New York.

RUBBER BOOT SOCKS.

A PROMINENT supply house send us a cut of a boot sock that they are selling a great many of. The "Diamond" is made of canvas, the heels, tips and soles being of sheepskin. It is made in men's, boys', youths', and child's sizes. Another form of the same sock is made entirely of canvas and is known as the "Victor." Manufactured by J. K. Kreig & Co., 39 Warren street, New York.

THE NUMYR ADJUSTABLE NOZZLE.

THE illustrations accompanying this show a new hose and pump nozzle that is certainly very original, and for which a great deal is claimed. The points that the manufacturer urges are; that it is automatic, adjustable, straight-way; that it



throws either spray or solid stream, that it can be adjusted to the finest mist or any density of spray and from that to a full stream with the thumb and forefinger of the hand holding the nozzle. It will also throw a spray in the shape of a fan, which is said to be the correct way. When used with the various decoctions that may be needed for spraying, it cannot clog, for the automatic construction will allow any lumps to pass and then resume its normal position. The distance to which spray

can be thrown can be regulated with the greatest ease. It has been used successfully as a lawn sprinkler, for washing wagons and windows, and for any use to which the ordinary nozzle can be put. The smaller cut shows the hose and pump nozzle, while the larger one shows it adapted for fire purposes. It is made of brass and is nickel plated. Manufactured by H. F. Neumeyer, Macungie, Pa.

A NEW "BALL-NOZZLE" FEATURE.

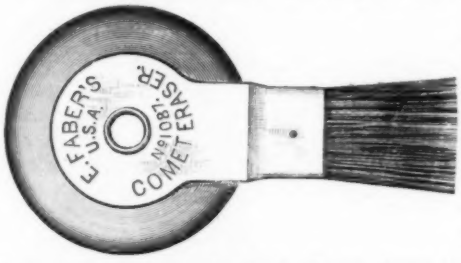
THE inventor of the "ball-nozzle" lawn-sprinkler described in THE INDIA RUBBER WORLD for March has since applied for patents on a new feature of the apparatus, of which some idea may be gained from the illustration here given. The upper part of the drawing represents the ball nozzle, on the right, with an outlet for a straight stream on the left. The whole of this upper part can readily be turned around, so as to produce either a spray or a straight stream, as desired, according to whether one orifice or the other is brought into a certain position. If the revolving disk or cap be stopped in an intermediate position the flow of water is cut off. The convenience of using this device is increased by suitable lettering beneath the revolving disk—not shown in the cut—to indicate to what distance the disk is to be turned for either a

COMBINATION BALL NOZZLE.

straight stream or a spray, or to cut off the water. In the description printed in March it was indicated that the fire nozzles offered by the same company were provided with valves to permit a speedy change from a spray to a straight stream, or vice versa, but the lawn-sprinkler appliances then were fitted only for spraying. The new feature above referred to is meant for lawn-hose alone. Manufactured by the American Ball Nozzle Co., Nos. 837–847 Broadway, New York.

THE COMET ERASER.

FABER'S erasers are known favorably the world over. They are of all shapes, sizes, prices, and indeed, fitted to every erasive need that civilization can furnish. The latest shape that has been put upon the market is the Comet shown in the illustration. The improvement explains itself. The circular eraser turns on its pivot presenting a fresh surface wherever needed. Instead of blowing away the dust after erasing the user finds that the little brush does it more effectively. Manufactured by Eberhard Faber, New York.



TEMPLE'S GAIT SPREADER.

A VERY common habit among horses is that of interfering and the simple rubber device here shown is said to permanently cure it. Heretofore devices adopted have only partially met the difficulty and have often brought on sores and galls which have injured the horses. This boot however in no instance injures the creature in any way, nor does it like many horse boots interfere with circulation of the blood nor produce wind puffs. The manufacturer of this is a thoroughly practical horseman and an expert horse shoer. He has made it a special study to cure interfering, and has found that this article accomplished it in every case. It will be noted that this boot is fastened easily and quickly to the hoof of the animal and therefore can in no way injure the legs. It is simple, practical, durable and effective and furthermore is cheap. Manufactured by The Temple Spreader & Non-Interfering Horse Boot Co., Windsor, Broome Co., New York.

THE "GEM" RUBBER-STAMP HOLDER.

ONE effect of the widespread use of rubber stamps in offices and counting-rooms has been to bring into the market a number of articles specially devised for use in connection with them. Such an article is the stamp-holder illustrated in the cut, being a strong but ornamental device of wire to be screwed into a desk or the wall in front of the person handling the stamp. Having a screw-thread, no tools are required for attaching the "Gem" holder. Another advantage is that it can be sprung to admit, and hold properly, a larger or smaller rubber stamp. It is made in two sizes, can be had either tinned or nickel-plated, and is sold at a small figure. Manufactured by the C. T. Williamson Wire Novelty Co., Newark, N. J.

A RUBBER-STAMP HOLDER.

THE "LINDEN" AND "BERWICK" SHOES.

AT this season the trade naturally look for new styles, and they are very rarely disappointed. In ladies' wear the Linden, here illustrated, bids fair to be a leader and a ready seller. It

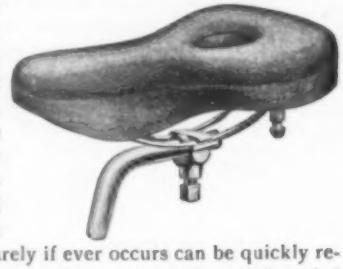
is a medium high cut shoe with needle toe, is high in the back, and very light in weight. It has a handsome light drab lining and has the plain upper that is now fashionable. The men's shoe of the same style has been called the "Berwick" and is

like the women's except that the heel is unlined. These goods are manufactured by the Boston Rubber Shoe Co., Boston, Mass.

THE "PERFECT" PNEUMATIC SADDLE.

THIS type of cycle saddle is said to be as great an improvement over the ordinary saddle as the pneumatic tire is over the solid tire. They are very light, and at the same time strong; are unbreakable, practically unpuncturable, and with fair usage will last for years. Any style of pump will inflate them, and a further advantage is that they can be inflated to any degree of hardness. The saddle can be tilted to suit the fancy of the

rider, and is fitted with a valve that rarely gets out of order. The inflatable rubber bag is covered and held in place on the metal frame by a leather covering. The rubber bag is made of extra strong heavy rubber to stand the most severe strain, and any wear it may be subjected to. It has no humps or bumps on it and makes a perfect pneumatic seat. The metal frame and steel wire support are made from the finest metals obtainable, and the covering is of fine Russia calf leather, very soft and pliable. The rubber bag can be easily and quickly removed, and in case of puncture, which rarely if ever occurs can be quickly repaired with ordinary rubber patches used on tires and carried by all riders of pneumatic tire wheels. This saddle weighs but twenty ounces and is manufactured by the Pneumatic Saddle Co., 107 Chambers street, New York, N. Y.



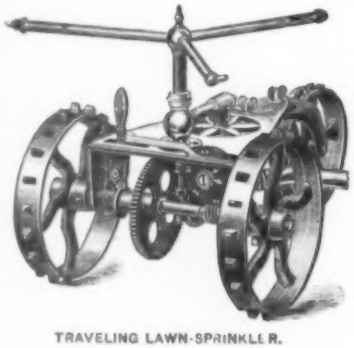
A READY TESTER FOR TIRE-VALVES.

FOR the benefit of repair-men in testing pneumatic-tire valves, a new device has been introduced of which an illustration is furnished herewith. It consists of an India-rubber bulb, *B*, and a strong glass tube, *C*, the whole resting upon a metal foundation. Before use enough water is poured in to fill the bulb, and the glass tube up to *D*. Gentle pressure by the thumb will elevate the water to *E*, which is enough to cover the valve and show any escaping air-bubbles greatly magnified. Manufactured by Codman & Shurtleff, Nos. 13-15 Tremont street, Boston.

TIRE-VALVE TESTER.

"LITTLE GIANT" LAWN SPRINKLER.

THE leading feature of the lawn-sprinkler illustrated herewith is that it may be so adjusted as to automatically move about a lawn over any course that may be selected for it, by means of which every part of the grounds may be equally well watered. It may be made to propel itself either in a straight line or in a circle of any diameter, at a speed varying from 15 to 500 feet per hour, drawing after it as much as 100 feet of ordinary garden-hose. It may also be gaged to distribute water over a swath as wide as 50 feet or no wider than 5 feet, as desired. The mechanism embraces a figured dial-plate, which is a guide to the adjustment for a straight line or circle; besides, the sprinkler will stop automatically at any distance designated for it. It is also adapted for use as a stationary sprinkler. The price is $15. It is manufactured by the Portland (Me.) Lawn Sprinkler Co., who have appointed as their sole selling-agents the E. Stebbins Manufacturing Co., Brightwood, Mass.



TRAVELING LAWN-SPRINKLER.

A FASHIONABLE TWO CAPE MACKINTOSH.

THE accompanying illustration shows a new and desirable two cape garment. It is made without sleeves, close fitting at the waist in the back, and hangs straight in front. The skirt is cut full to fit properly over the new style of dress skirt. The capes are cut full, the top cape extremely so, and hangs in folds over the under cape, giving a very graceful and stylish appearance. The corners of the top cape are neatly rounded and it does not button down in front. The under cape buttons down in front with a fly, affording complete protection to the wearer, as it will not blow open, thereby exposing the arms to the storm, which is the greatest fault with capes that do not button. The capes are detachable and designed to be worn separately making a very handsome and stylish shoulder cape. They are made in both single and double texture and from a great variety of cloths. The single and many of the double textures are made with capes lined with handsome plaid surah silks. Manufactured by American Rubber Co., 114 Bedford street, Boston.

ATLAS "SPECIAL" SULPHURET OF ANTIMONY.

A NEW sulphuret of antimony that produces an exceptionally rich orange red is what is known as the "Atlas Special." It is especially soft to the touch, and is absolutely free from grit. An unusual feature about it is its entire freedom from bloom. Samples of rubber cured with it after resting for months show not the least trace of efflorescence. Another virtue that it has is that it will stand a long and high heat without burning. Nor does it cause the rubber to harden after the cure is effected. A sample shown that remained in the press 1½ hours with the heat at 280° F. after it had been cured, was as soft and pliable as if run at the regular heat. The sulphuret is light in weight and of a very strong color. Manufactured by the Atlas Chemical Co., Newtonville, Mass.

THE PNEUMATIC AGE.

"PNEUMATIC Tires!" th' enraptured cyclist cries,
As o'er the smooth macadam's miles he shoots.
"Pneumatic Never Tires!" at once replies
The proud pedestrian in pneumatic boots.

—*Lika Joka* (*London*).

MY landlady's daughter has a wheel,
And down the street she flies;
Meanwhile the dear old girl herself
Gives us pneumatic pies.

—*Cincinnati Tribune.*

VULCANIZING INDIA-RUBBER IN DENTAL PRACTICE.

*By George B. Snow, D. D. S.**

AT the last annual session of the Michigan Dental Association, Dr. George B. Snow, of Buffalo, N. Y., presented some samples of vulcanized India-rubber and showed what physical changes take place in that material during the process of vulcanization. The samples, both by their change of shape and by their increased specific gravity, showed that their mass was perceptibly smaller after vulcanization, the change differing according to their composition; those composed of pure India-rubber and sulphur shrinking more than those containing a large percentage of foreign matter; the scale running from pure black to pink, the latter showing the least change. The difference in the specific gravity of the samples showed the change by vulcanization to run from about 6 per cent. for pure black rubber to about 3 per cent. for pink. Attention was called to the fact that the heretofore unaccountable mishaps which occur in vulcanizing, such as loose teeth, vacant spaces under the shoulders of bicuspids and molars, and under section teeth, are easily explained when the shrinkage of the India-rubber is taken into account; their occurrence being much more frequent in the use of black or pure India-rubber than in the colored specimens.

The subject of the expansion of India-rubber by heat was then taken up, and specimens were exhibited which showed that its expansion from 212° to 320° is fully equal to its shrinkage in vulcanizing; the deduction following that if the flask were properly packed, and closed in hot water, it would contain enough India-rubber to make a sound plate if none of it were allowed to escape. As gateways are usually cut, a constant escape of the rubber is going on while the vulcanizer is reaching the vulcanizing point, with the result that if there were no change in it by vulcanizing, there must still be a deficiency in the mold when it cooled to the amount of the escape into the gateways. A strong plea was made for the use of spring pressure upon the flask while vulcanizing, and it was shown that by cutting a circular overflow chamber around the mold, leaving a narrow edge of plaster around it perfect, so that the India-rubber would be imprisoned when the flask was closed, and by using spring pressure upon the flask in the vulcanizer, the necessary conditions would be fulfilled, and the results would be very much more satisfactory, both to the operator and to the patient.

Two plates were shown, vulcanized in the college laboratory at Ann Arbor, one in the ordinary way, and the other according to the process described. The two plates were counterparts, being made upon duplicate models, with section teeth set at a considerable distance from the alveolar ridge and mounted in black rubber. When vulcanized, a bicuspid block was broken from each in order to show the difference between them. The one vulcanized in the ordinary way had a space under the teeth, so that a Swiss saw could be passed under all of them, even to the molars on the opposite side, and the pins of the broken bicuspid block were perceptibly loose in the rubber. The other plate showed the rubber to be in perfect contact with the teeth and the pins to be held firmly.

The changes in the plate after vulcanizing, by the contraction of the rubber in cooling, were then noticed, and it was shown that they were much more marked when section teeth were used, on account of the very slight contractile power of the porcelain. The sections form an arch which diminishes in width by the contraction of the India-rubber inside it, with the effect of causing the plate to rock upon the hard palate. The plate is, in fact, a little too narrow for the mouth; and if it becomes necessary to re-vulcanize it, the difference is often perceptible, and lower plates, after successive repairs and re-vulcanizations, will become so loose as to be unwearable. It was shown that the difficulty could be overcome by heating the plate enough to soften the rubber while its heels were forced apart by a stay, thus widening the arch and restoring it to its original dimensions.

* Reprinted from the *Dental Register* (Cincinnati).

DISSOLUTION OF THE RUBBER RECLAIMING COMPANY.

THE Rubber Reclaiming Co. have decided to go into liquidation, an agreement to this end having been reached and signed at a meeting of the stockholders and also of the board of directors held on Monday, May 6, at the offices of the company at Jersey City. The Rubber Reclaiming Co. were incorporated under the laws of New Jersey on May 9, 1891, to continue in business for ten years, the purpose being the lease for that length of time of five of the rubber-reclaiming plants then in operation in the United States. The capital stock of the company was $200,000. The names of the stockholders embraced in the charter, the names of the companies which they severally represented, and the number of shares held by each were as follows, the basis of apportionment of the shares being the appraised value of the different plants taken over:

N. Chapman Mitchell, of the Philadelphia Rubber Works, 328 shares; Rudolph A. Loewenthal, of the firm of Loewenthal & Morganstern (Jersey City), 219 shares; Royal M. Bassett, of the Derby Rubber Co. (Birmingham, Conn.), 168 shares; C. Edward Murray, of Murray, Whitehead & Murray (Trenton, N. J.), 155 shares; and Edward R. Solliday, of the New Jersey Rubber Co. (Lambertville), 130 shares.

As reported in another part of this paper, C. Edward Murray, on May 1, obtained a cancellation of the lease of the Trenton plant and arranged for its operation by the Assanpink Rubber Co. This arrangement was consummated by the sale of his shares to Mr. Loewenthal. Some time ago the firm of Loewenthal & Morganstern was succeeded by the Union Rubber Works Co., incorporated under the laws of the State of West Virginia, and subsequently Mr. Loewenthal became the sole owner of its interests by the purchase of the shares owned by Mr. A. G. Morganstern, who has gone to Europe.

The agreement entered into on Monday last, to take effect on June 1, provides for the cancellation of all leases and the restoration of the constituent companies of the Rubber Reclaiming Co. to their original legal status, with the exception, of course, of the Trenton company already referred to. It will thus be seen that the leases terminate six years in advance of the term originally named. The agreement was signed by the following parties:

Rubber Reclaiming Co., by N. Chapman Mitchell; Union Rubber Works Co., by R. A. Loewenthal; Philadelphia Rubber Works; by J. M. Stotesbury; Derby Rubber Co., by Royal M. Bassett; and New Jersey Rubber Co., by Edward R. Solliday.

Under the laws of New Jersey the directors of a corporation,

when its liquidation has been agreed upon, become trustees for that purpose. In their capacity as trustees the directors of the Rubber Reclaiming Co. have named N. Chapman Mitchell and R. A. Loewenthal as a committee to arrange the details necessary to bring the affairs of the corporation to a close.

The officers of the Rubber Reclaiming Co., since the last annual election, have been: Edward R. Solliday, president; George O. Schneller, vice-president; Dana Bartholomew, secretary; and N. Chapman Mitchell, treasurer. The directorate included in addition the names of Rudolph A. Loewenthal and William H. Blain.

This new arrangement is a result of special meetings held by the various companies during the week preceding the meeting at Jersey City, at which the final action taken was without exception voted to be desirable.

One other feature of interest in the transaction relates to the patents in connection with reclaiming rubber which have been used in the past by the Rubber Reclaiming Co. These patents are the property of the Chemical Rubber Co., a corporation under the laws of New York state, and have been used for some years past under three licenses, granted respectively to the New York Belting and Packing Co., the Philadelphia Rubber Works, and Loewenthal & Morganstern. Upon the formation of the Rubber Reclaiming Co. that corporation came into control of the latter two licenses. The effect of the liquidation will be to restore the licenses to the control of the former holders, the owners of the works at Philadelphia and at Jersey City.

The oldest of the rubber-reclaiming companies is that at Philadelphia, of which N. Chapman Mitchell is president and J. M. Stotesbury secretary. The next in order of age is that now controlled by the Union Rubber Works Co., of which R. A. Loewenthal is treasurer and manager. Mr. Loewenthal, by the way, has offered his plant for sale on account of the retirement from business of his former partner, and of his having become involved in important outside interests, including the presidency of the Mutual Fire Insurance Co. The third of the companies in point of age is that at Trenton, the recent change in which has been mentioned above. Next comes the Derby Rubber Co., of which Henry Atwater is president and Theodore Bassett secretary. The remaining concern is the New Jersey Rubber Co., at Lambertville, with Peter Voorhees president, and Edward R. Solliday secretary.

The Rubber Reclaiming Co.'s offices in Nassau street, New York, probably will be retained until the liquidation of the company has been completed.

THE Rubber Tire Wheel Co. (New York) have received from the superintendent of the New York Hospital an order for a set of their rubber tires for an ambulance, to cost $100.

THE DEATH OF E. BRUCE PRESTON.

IN the death of Mr. Everett Bruce Preston, which occurred in Chicago on April 27, the United States Rubber Co. have lost a valuable representative and the whole rubber-shoe trade have reason to feel deep regret. Mr. Preston was born at Hartford, Conn., about fifty-one years ago. In 1868 he went to Chicago in the interest of the New York Belting and Packing Co. and opened one of the first exclusively rubber stores in that city. Later he took the position of Chicago representative of the Meyer Rubber Co., in addition to which he soon after became representative of the New Jersey Rubber Shoe Co. His success in connection with their goods was such that he finally had placed in his charge the entire western selling business of both companies. He made valuable suggestions of improvements in details of manufacture, by which he contributed to the maintenance of a high reputation for the brands of shoes referred to. For several years past Mr. Preston has also represented in Chicago The L. Candee & Co., the Marvel Rubber Co. and the New Brunswick Rubber Co.

E. BRUCE PRESTON.

By permission of the "Boot and Shoe Recorder."

When the various companies represented by Mr. Preston were incorporated in the United States Rubber Co. his importance as a factor in the trade was fully recognized by the management of the latter concern, and at the beginning of the present season he was placed in charge of its Chicago warehouse. The firm of E. B. Preston & Co., apart from its direct connection with the rubber-shoe companies named, did an extensive jobbing business, including rubber clothing and other lines of rubber goods. Mr. Preston also had large outside interests. He was interested in the fire-engine and firemen's-supply and the brewers'-supply business, and in the company which built the "Czar" and "Czarina" bicycles.

E. Bruce Preston was a man of great energy and unusual executive ability, possessing in large measure the qualifications which mark what is called in the expressive language of the west a "hustler." His progressiveness was shown in many ways, but in none more clearly than in his original and forceful methods of advertising. He had a singular capacity for making and keeping friends, and he was probably the best-known man in the rubber-shoe trade in the entire west.

The funeral, at Hartford, on April 30, was largely attended by representatives of the trade. Mr. Preston left a widow and a daughter sixteen years old.

IT is reported that land has been bought at South Framingham, Mass., on which will be built a new factory for mackintoshes, to be owned by the Messrs. Conant, of Boston, with Theodore H. Videto as superintendent. The latter is the son of the superintendent at the works of Gossamer Rubber Co., at South Framingham.

FOREIGN CARRIAGE-TIRES LOSING GROUND.

AMERICAN invention is rapidly proving itself capable of supplying American needs, in whatever line of manufacture, a fact which is suggested by the recent adoption, by the ultra-fashionable carriage trade, of an American rubber tire, in the place of one manufactured here under an English patent. The firm of Brewster & Co. (New York) and at least one other carriage firm have terminated their contracts with the Shrewsbury & Talbot Noiseless Tire and Cab Co., and announce that hereafter they will recommend and use the tires of the Rubber Tire Wheel Co. (Springfield, Ohio), which were described in our department of "New Goods and Specialties" last December. This tire is the invention of Arthur W. Grant, who has been interested in the bicycle business for fifteen years past, and is the inventor of several tires. The tire adopted by Brewsters was patented late in 1893, and the Rubber Tire Wheel Co. were incorporated, with E. S. Kelly, president; A. W. Grant, vice-president; and O. W. Kelly, secretary-treasurer. Their present capital is $45,000. The rubber for the tires comes from the B. F. Goodrich Rubber Co. (Akron, Ohio), and the steel bands are rolled by the tire company, and put on wheels at the Springfield headquarters, or at several branch houses, of which one is in New York. They assure THE INDIA RUBBER WORLD that 4500 sets of their tires have been manufactured to date.

Mr. Channing M. Britton, the head of the firm of Brewster & Co., who has been quoted in THE INDIA RUBBER WORLD more than once, says: "We would not be likely to give up a patent in which we had had an interest for eight years unless we had found something better. The new tires are made of rubber that wears better than those we have used hitherto. We were forced to have our old tires compounded specially with a view to prevent their rolling out of the channels, and the result was a rubber that lacked wearing qualities."

Arthur W. Grant, above mentioned, was also the inventor of the vehicle-tire manufactured by the Tricycle Manufacturing Co. (Springfield, Ohio), which is described on another page.

RUBBER-MEN AND THE JEWELRY TRADE.

JOSEPH BANIGAN, president of the United States Rubber Co., a multi-millionaire and perhaps the most prominent commercial man in Rhode Island, has bought a large block of stock in the Howard Sterling Co. (Providence), the capital stock of which has been increased to $300,000, with privilege of further increase to $350,000. The purpose of this increase in capitalization is to permit this enterprising young concern to erect a building perfectly adapted to their own business, which will be appreciably expanded. Stephen C. Howard will assume the general-managership of the business. It is a fact worthy of remark that Joseph Banigan was originally a working jeweler, having served his time and learned the trade.

* * *

ANOTHER important member of the rubber-manufacturing trade who has been connected in an extensive way with the jewelry business is Mr. Amadee Spadone, now and for years past president of the Gutta-Percha and Rubber Manufacturing Co. (New York). Mr. Spadone began business as an importer of watches, with a place of business at No. 177 Broadway, as long ago as 1854. A little later he changed his location to No. 4 Maiden lane, where it remained for more than a dozen years. Still later he was at No. 658 Broadway. Mr. Spadone's name remained on the list of New York jewelers, either alone or with a partner, until about 1879, although he had, before that date, become identified with the manufacture of rubber goods,

THE ASSANPINK RUBBER COMPANY.

IN 1883 there was started in a small way in Trenton, N. J., a plant for reclaiming rubber. It was owned by J. Howard Murrray, and in 1884 was enlarged and the firm name changed to J. Howard Murray & Son. A year later another partner was taken in and the name again changed to Murray, Whitehead & Murray. This concern was successfully run up to 1891 when it became one of the five companies that united and formed the Rubber Reclaiming Co. Mr. C. Edward Murray was made secretary of the Rubber Reclaiming Co. and held that position for two years. In 1893 Mr. Murray formed the Assanpink Rubber Co., and when he came to an understanding with the Rubber Reclaiming Co., the first of this month, by which the lease of the Trenton plant was cancelled, he not only turned it over to the Assanpink Rubber Co., but with characteristic energy, put in a new 300 horse-power engine, new machinery, and at once started. They will probably make the better grades of reclaimed rubber. He has already received many warm assurances of patronage from his old customers, and feels that he is sure of his share of the trade. In addition to the Assanpink Co. Mr. Murray is the largest owner in the Crescent Insulated Wire Co., a prosperous Trenton concern. He is also city clerk of Trenton, and is paymaster of the Seventh Regiment Nat'l Guard of N. J., of which the Hon. Wm. H. Skirm is colonel.

A REVIVAL IN THE RUBBER TRADE.

THOSE of our readers who are interested in studying the indications of improvement in the India-rubber trade to be found in the reports of the movement of crude materials and manufactures of rubber may find some encouragement in the study of the figures below, which afford a comparison for the months of January, February, and March for the present year with the last two years preceding.

IMPORTS.	1893.	1894.	1895.
India-rubber (pounds)	14,410,685	11,746,104	14,628,648
Value of the same.....	$5,898,205	$5,216,099	$6,660,236
Gutta-percha (pounds).....	109,747	95,642	321,603
Value of the same.....	$92,752	$88,495	$31,517
India-rubber goods...	$106,042	$78,940	$111,989
EXPORTS.			
India-rubber (pounds).....	57,570	632,863	517,973
Value of the same.....	$30,570	$291,843	$234,387
Gutta-percha (pounds)..... .	.....	7,709	47,859
Value of the same.....	.....	$1,853	$11,169
India-rubber goods—domestic..	$257,311	$249,371	$404,001
foreign...	.....	$950	$265

If the increase shown for this year over the figures for last year should continue to be maintained—as now seems probable—1895 will prove the banner year in the history of the trade in the United States as regards both the amount of raw material used and the value of manufactures of India-rubber exported.

WHO MAKES THESE TIRES?

THE assertions which follow are from *Farm Machinery* (St. Louis), which fails to give a hint as to whose bicycle-tires are so worthless:

"It's time bicycle jobbers and dealers line up manufacturers on the subject of tires. All other parts of all the better machines are better made than the tires, which are a source of useless expense to riders. The best advertised tire is a good-for-nothing fake, made to sell. The wheel-manufacturer buys it cheap and sells it on its reputation and adds a dollar or two to his profits. The rider finds it giving way and thinks he's hard on tires, when the real fact is the tire was a deception to all but the tire-man and his customer. It's time to demand better things in tires."

TRADE AND PERSONAL NOTES.

THE Revere Rubber Co. have removed their New York house from No. 64 Reade street—where they have been located for twelve years past—to much more extensive quarters, at Nos. 59 61 Reade street, almost exactly opposite the old number. They now have four floors, 50×75 feet, occupying the whole of the building with the exception of the ground floor.

—The New York Tire Co. have removed their New York office from No. 23 Warren street to Nos. 59-61 Reade street, where they will occupy room on one of the floors of the Revere Rubber Co.

—Through the death of one of their best salesmen, and the withdrawal from the rubber business of another, the Boston Rubber Co. find themselves short of their normal force of travelers. Here is an opportunity for some bright man.

—The Tyer Rubber Co. (Andover, Mass.) have a fine exhibit at the American Pharmacy Fair, Boston. Another one of interest is that of Ellis & Gottermann (New York). These will both be described in detail in the next issue of THE INDIA RUBBER WORLD.

—A beautifully-designed folder, adorned with patriotic emblems and tendering the hospitalities of the city of Memphis, Tenn., during the "Grand Inter-state Drill and Encampment," lasting from the eleventh to the twenty-first of May, has been received by the editor of THE INDIA RUBBER WORLD. While business will prevent the acceptance of the invitation, the courtesy extended by Messrs. Towner & Co. is fully appreciated.

—It is rumored that $400,000 has been raised in Boston and vicinity for a new company that shall manufacture rubber boots and shoes.

—As will be seen from the advertising columns of this paper the rubber reclaiming plant of Loewenthal & Morganstern, at Jersey City, N. J., one of the oldest in the business, is offered for sale. This plant is in excellent condition, ready for immediate operation, and is suited for the manufacture not only of reclaimed rubber but also of bicycle-tires and similar goods. The reason given by Mr. R. A. Loewenthal, who now controls the plant, for offering to dispose of it is the growing importance of other business engagements in which he has become involved and which now demand his entire attention.

—The North American Rubber Co. (Setauket, L. I.) suffered a loss by fire, on April 14, on plant and stock, amounting to $30,000, which is only partially covered by insurance. The fire did not interfere with the business of the company, and the factory is already at work as usual, the main products being rubber clothing and the "North American" bicycle-tires.

—The Liberty Rubber Shoe Co., the incorporation of which was reported some time ago in THE INDIA RUBBER WORLD, perfected its organization at a meeting held in Jersey City on April 25 by the election of Benjamin F. Jayne as president and Edwin Elberson as secretary-treasurer. The company have begun the manufacture of tennis goods at a new plant established at Setauket, L. I. Their office and salesroom are at No. 81 Reade street and No. 97 Chambers street, New York.

—The office of the North American Rubber Co. has been removed from No. 36 Park place to No. 81 Reade street, New York.

—The trustees of Port Richmond, Staten Island, have awarded a contract for fire-department supplies to the Gutta-Percha and Rubber Manufacturing Co. (New York), amounting to $1450.

—The patent infringement suit of the Chemical Rubber Co. *v.* the Raymond Rubber Co., George Agnew, C. H. Blackwell, and J. G. Agnew came to trial before Judge Dallas, of the United States circuit court for the district of Pennsylvania, on Monday, April 22. The case had previously been called before the United States court at Trenton, the suit having been brought in New Jersey, but for the sake of convenience to certain of the counsel an arrangement was made whereby the case could be tried at Philadelphia. The case has been referred to at some length in THE INDIA RUBBER WORLD, the points at issue and the details of the patents involved having appeared in the issues for October 15, 1894, and succeeding months. After hearing the arguments of counsel the court took the papers in the case, and a decision is looked for without much delay.

—The Hon. Elisha S. Converse, who, with his family, has been abroad for several months, was due in Paris last week on his return to America.

—The strike among the operatives of the Boston Gossamer Rubber Co., the factory of which is at Hyde Park, after being prolonged for more than a month, had not been settled at last accounts. The Massachusetts state board of arbitration had offered its services in helping to bring about a settlement.

—Mr. Ed. Wertheim, the Chicago representative of Louis Wertheim & Co, m. b. H., moved on the first of the month to No. 55 South Canal street, where he keeps a stock of their German asbestos goods for immediate delivery.

—At the annual meeting of the Pacific Rubber Company, (Elizabeth, N. J.) Mr. F. M. Hartshorne was elected treasurer in place of Mr. M. W. Halsey.

—The Vant Woud Rubber Co. (New York) are out with a new atomizer which will be illustrated in these columns next month.

—C. J. Bailey of Boston, is perfecting another rubber specialty that bids fair to be a more popular seller than any of his other inventions, which is saying a great deal.

—The Indianapolis (Ind.) Rubber Co. are extending the range of their output. In addition to their own "I. C." and "Crescent" tires, they are large manufacturers of "G. & J." tires, pedal rubbers, valves, and rubber cement. They have just added rubber door-mats, in handsome styles.

—F. A. Merriam has opened a new store at Westminster, Mass., stocked with boots, shoes, and rubbers.

—The National India Rubber Co. (Bristol, R. I.) will put in a new Knowles steam-pump having a capacity of 3,000,000 gallons per day of ten hours. The celebrated "Jumbo" engine has been put into its new place at the National works, after having been partially rebuilt to add to its power.

—The old Brown rubber comb factory at Wappinger's Falls, N. Y., has been converted into a structure suited for stores or dwellings.

—Owing to the increased demand for their carriage cloths, the Fairfield Rubber Co. have been obliged to increase their plant. They, therefore, built an addition to their main building and put in considerable new machinery; the most important of which are a new embossing machine and a large vulcanizer. A further improvement of their plant has been a large driving wheel that has lately been completed. This company is turning out many new styles of goods and are large producers of carriage cloths.

—The owners of the Automatic Swimming Frog, the new and popular rubber toy, shown in a recent number of THE INDIA RUBBER WORLD, are the Birnbaum Rubber Co., 47 East 12th street, New York city.

—A fire-alarm from a private box in the office of the Boston Rubber Shoe Co., at the Edgeworth factory, on April 15, brought a quick response from the Malden fire-department. The fire grew out of the use of benzine in cleaning presses in the heel-room, and was extinguished with a loss of not more than $500, which is covered by insurance. A panic among the large number of operatives was averted, by good management.

—In the suit of Begg & Co. *v.* The Goodyear Vulcanite Co., in the United States circuit court at Philadelphia, for $5428.62 for damages for alleged failure to carry a contract, the plaintiffs, during the trial, reduced their claim to $700, and were awarded $106.25.

—The two factories of the Boston Rubber Shoe Co., at Malden and Edgeworth Fells, were closed from April 17, to May 6, for the annual repairs and stock-taking. These factories were not closed during the shut-down of most of the other rubber-shoe plants earlier in the spring.

—The Rhode Island Coupling and Rubber Co. (Providence) have changed their name to the Rhode Island Supply and Rubber Co. They will handle mill supplies and mechanical rubber goods as in the past.

—On the first of May the Commonwealth Rubber Co. opened a retail store at No. 2 Astor House, corner of Broadway and Vesey street, New York. They have in stock a full line of rubber goods in all lines. Their wholesale business will be carried on at 54 Vesey street. Mr. E. W. Holt has charge of the new retail department.

—Mr. William B. Banigan, manager of the Marvel Rubber Co. (Providence), is back from a Western trip with the substantial assurance that the Marvel there is more popular than ever.

—Mr. W. N. Lockwood, Treas., of the Davidson Rubber Co. (Boston), takes a flying trip to Northern New Hampshire, this month after land-locked salmon.

—Mr. Willis Darling of the Boston Woven Hose & Rubber Co., with a party of friends is spending the last two weeks of this month at "Camp Sunshine" on Moosehead Lake, Maine, trout fishing.

—C. H. Bishop, manager of the Sterling Rubber Co., 111 Duane street (New York), has just returned from a trip among his old customers with the most substantial of all assurances of their remembrance,—plenty of good orders.

—Mr. H. H. Shepard, sales agent of the National India Rubber Co., reports that the present year is outclassing all previous ones in the demand for the National Co.'s tennis goods.

—Mr. Thos. C. Lothrop, formerly proprietor of the Boston Car Spring Co., has connected himself with the firm of Stedman & Kellogg, bankers and brokers, Boston.

—Chester J. Pike, manager of the Boston offices of the United States Rubber Co., is back from a two weeks' trip to Chicago.

—The Sterling Water Tube Boiler, that many rubber-mills know favorably, has scored a triumph in being installed at the Watertown Bleachery, Watertown, Mass., and that in the face of the keenest kind of competition.

—The New York papers chronicle the death of Mr. John Shaw, manager of the T. & S. C. White Co., who have a large trade with the rubber manufacturers in the United States.

—The American Steam Packing Co. (Boston) announce the retirement of Mr. W. J. Staples from membership in the firm.

—J. M. Hower, Jr., who recently rode from Cleveland to Orlando, Florida, on a bicycle, speaks enthusiastically of the "Loop Tires" made by the Mechanical Rubber Co., that bore him safely over twelve hundred miles of tough roads.

—Mr. J. J. McGill, manager of the Canadian Rubber Co., Montreal, was a recent visitor to Boston.

—Mr. William H. Aldridge, of Trenton, has accepted a position as superintendent of a large insulated wire plant in Wilmington, Delaware.

—Mr. Robert Perkins, vice-president of the Liberty Cycle Co., and inventor of the "Liberty" pneumatic tire, has contributed to the *Engineering Magazine* (New York) a capital illustrated article on bicycles, under the title of "A Marvel of Mechanical Achievement." Mr. Perkins is a native of Woolwich, England, and has had an unusually wide and successful experience in the mechanical world. Further proof of his versatility is shown in the excellence of his work as a writer.

—The Boston Belting Co. received recently a letter from a large manufacturing establishment in Philadelphia to whom they sold, about 1870, a 32-inch driving-belt, saying that the belt had been in constant and satisfactory use ever since, and asking at what price the order could be duplicated. With a record of twenty-five years to the credit of a belt from their regular stock, the Boston Belting Co. feel that they can safely challenge the makers of leather belting on the score of durability.

—Dealers in garden-hose very generally are displaying in their stores the "ball-nozzle" attachments made by the American Ball Nozzle Co. (New York). The same company report satisfactory progress in getting orders from fire-departments for their device.

—Messrs. Latta & Mulconroy, of 706 Arch street, dealers in rubber goods and specialties, have become the Philadelphia agents for the New York Tire Company, for the distribution of New York tires in their districts. Mr. C. A. Yeager, a gentleman of broad ideas in tires, will have charge of the department.

—The second meeting of the creditors of Samuel Kidder of Boston, was held April 29, and the report is as follows; Liabilities about $23,000, assets $17,100. He made the following offer to his creditors, 60 per cent. payable, 10 per cent. in six months from date of acceptance, 20 per cent. in twelve months, 15 per cent. in eighteen months, 15 per cent. in twenty-four months. He assigned his interest in the business to William F. Robinson, of the Boston Woven Hose & Rubber Co., as trustee. Williams, Soule & Dow were appointed advisory board for the trustee to confer on complicated matters that may arise. All were appointed with full powers. Mr. Kidder is to be retained by the trustee, receiving a salary of $2000 per annum for his services.

—The rubber-shoe factories in New Jersey all resumed operations during the past month. The first to start to work was the New Brunswick Rubber Co., on Washington street, New Brunswick, on April 8. The United States Rubber Co.'s factory (formerly the New Jersey Rubber Co.), on Little Burnet street, began work on April 23. Operations were resumed by the Meyer Rubber Co., at Milltown, about April 15.

—A. C. Durant has gone into business at No. 514 Corn Exchange, Minneapolis, Minn., as a manufacturer's agent for mechanical rubber goods and leather belting. He lately resigned as secretary-treasurer of the W. S. Nott Co.

—The island of Madagascar is now in direct telegraphic communication with the rest of the world, a cable from Mozambique to Majunga having been opened for traffic.

—At a fire in Chicago, in the large Couch building, Nos. 199-205 Lake street, on April 17, the stock of rubber goods of I. B. Williams & Sons, at No. 205, was considerably damaged by water.

—The establishment of T. Martin & Bro., manufacturers of rubber gorings at Chelsea, Mass., reports having been in operation regularly, and with the usual amount of business, for several months past.

—The Boston Rubber Co. (Franklin, Mass.) have had good business all through the period of business depression, and it steadily continues.

—The Goodyear Rubber Co. (Minneapolis, Minn.) have supplied the county almshouse with twenty-two automatic hose-reels and as many stopcocks.

—The Coronado Rubber Co. (New York) have removed from Broadway to 77 Spring street. Here they have fine offices, large stock rooms and on the upper floors the making up department for their mackintoshes.

—The Imperial Rubber Co., Liberty street, New York, have taken another large room in the same building for a stock room. They report that their trade this year has already been far in excess of that of any previous year.

—Mr. W. D. Bloodgood, treasurer of the Coronado Rubber Co., has gone to California partly for his health and in part to look after the business interests that he has there.

—Mr. Geo. A. Alden has been elected President of the Boston Trade Club, and Mr. Geo. P. Whitmore of the Boston Belting Co., one of its Directors.

—Mr. E. R. Burleigh, western salesman of the Boston Rubber Co., is soon to go out of the rubber business and to go into that of making fine veneers in Louisville, Ky.

—Congressman L. D. Apsley of the Apsley Rubber Co., instead of going to Japan and China as he first intended, decided to go to Europe, where he is at present.

—A recent caller at the office of THE INDIA RUBBER WORLD was Mr. C. H. Chase, Western Sales Manager of the New York Belting & Packing Co. Mr. Chase was formerly at Atlanta but now makes his headquarters at St. Louis.

—In a recent alleged interview with a rubber manufacturer a great deal of information is given about old rubber shoes. One point, however, that makes the reader wonder who the manufacturer might be, is his statement that old rubber shoes go back to the factory, are *melted up* with other rubber and enter into the making of new overshoes. The article appeared in the New York *Times*.

—The Monarch Rubber Co., Campello, Mass., have added largely to their buildings and now have one-half an acre of floor space in use. They are running nine spreaders of an improved type and use three large dry heaters. They also have a new 250 h. p. engine and an additional Russel boiler of 100 h. p. They have added a fine general office, a private office, a packing room 58 × 30 feet and a large stock room of the same dimensions just above it. The factory is fitted with electric lights, and has a capacity for proofing twenty thousand yards of cloth per day.

—Perhaps one of the best known billiard experts in the rubber business is Mr. Geo. F. Davenport who looks after the city trade for the Boston Belting Co. Mr. Davenport plays one game every day at Young's directly after lunch and is usually surrounded by a crowd of interested spectators.

—Mr. Russel S. Beale, for thirteen years with the Standard Rubber Co. and Standard Rubber Corporation, Brockton, has accepted a position with the Boston Gossamer Rubber Co. at their factory in Hyde Park.

—The Ohio Rubber Co. have recently sold seventy-five of the Peerless bicycles to the Cleveland mail carriers, and fifty to the Cleveland Light Guards. The Peerless Mfg. Co., it will be remembered is the one in which Mr. L. K. McClymonds, General Manager of the Mechanical Rubber Co., is interested.

—The Independent Rubber Co., of Providence, R. I., are said to be turning out about forty cases of shoes a day. The goods are mostly women's, but they are also making a line of men's self-acting shoes.

—The C. O. Morrell Shoe Co., of Lewiston, Me., have been incorporated to do a general business in shoes and rubbers, with $10,000 authorized capital and $1000 paid in. William H. Newell is president.

—George Ropes, whose name appears frequently in the tables of imports of crude India-rubber in this paper, is a Boston merchant (at No. 5 South street) who has a regularly established house at Tamatave, Madagascar. His house is engaged in the shipment of American cotton goods to Madagascar, in return for which return shipments of native products are made.

—An additional floor has been occupied lately by the National India Rubber Co.'s Chicago branch, Nos. 202-204 Monroe street. This enlargement of the store, so soon after its opening, looks like evidence of a good business.

—Zachary T. Lindsay, the Omaha rubber merchant, has opened a sample- and sales-room at St. Joseph, Mo., and placed it in charge of F. W. Smith.

—The Connecticut brand of rubbers made by the Wales-Goodyear Rubber Co. are having a phenomenal sale. Their popularity seems to be directly due to good quality and careful workmanship.

—The Ireson Rubber Co. (Boston) are doing a first-class business in mechanical rubber goods. Mr. J. B. Lawton, for years with the Hall and Stoughton Rubber Co., is seeing the New England trade, while the proprietor, Chas. L. Ireson, and Manager F. E. Hall are doing a deal of hustling to make their own and the Manhattan's goods known.

—At the last Coal Dealers' Convention, one of the speakers prophesied that in the near future coal carts would be equipped with rubber tires to save the horses. His prediction is now being fulfilled. Mr. Geo. H. Hood, of the Boston Rubber Co., is putting 2-inch rubber tires on a Boston cart, the owners believing that they will effect a great saving in draught.

—Mr. F. E. Heustis, formerly with the Newton Rubber Co., slipped while going down some granite steps recently and falling on his back so injured the nerves of the spine that it will be months before he can walk again. His friends in the trade are full of sympathy and he has been the recipient of many a kindly expression of it.

—The two factories of the Boston Rubber Shoe Co. are to be closed for two weeks from April 15, for the annual stock-taking and repairs. It is said that the company have orders enough in hand to keep their 3500 employés busy for several months after resuming work.

—A new firm to manufacture druggists' sundries are Littell & Taylor, with offices at 86 and 88 Fulton street, New York, and making up departments in Newark, N. J. They are to make syringes, atomizers, stationers' bands, and general mold work. Both of the gentlemen interested were formerly with Parker, Stearns & Sutton, of New York.

—The F. E. Belden Mica Mining Co., Boston, have opened a New York office at 182 Franklin street, under the care of Union Adams, Jr., agent. They handle ground mica, quartz, flint, silex, etc.

—Mr. Adna Warner, superintendent of the Wales-Goodyear Rubber Co., at Naugatuck, Conn., has just returned from a two months' trip through the South.

—Mr. J. Francis Hayward, treasurer Cable Rubber Co., has returned from a six weeks' trip West, going as far as Omaha.

—Mr. G. B. Widner, selling agent for the Pacific Rubber Co. (New York) is on his way West, on a two weeks' business trip.

—F. W. Hardwick, of the Hardwick Rubber Co. (Trenton, N. J.) has been obliged, on account of ill health, to retire from business, and is now in Colorado.

REVIEW OF THE RUBBER MARKET.

RUBBER prices are higher, if any change can be said to have taken place in a market which has been quiet and marked by light transactions for the whole of the month since our last report. Buying has been done mainly by the mechanical-goods people, who are doing the average amount of work for the season, but they do not for the moment seem compelled to make liberal purchases. While the boot and shoe factories are all at work—with the exception of those of a single corporation which are just now taking their annual inventory—the period of greatest activity has not yet arrived. The new feature in the trade of making goods specially adapted to current styles in leather shoes leads to a closer adherence to the rule of manufacturing rubber shoes only on orders, and it is too early in the season to determine in detail what the trade will want.

While our total imports of rubber have been in excess of the arrivals up to this date last year, the difference has been supplied from other sources than Pará. The total receipts there show a decrease, as compared with last season, of about 2 per cent. At the same time, the improved conditions of business, both in the United States and abroad, have led to a stronger demand than in 1894. The near approach of the end of the crop year, rendering it impossible that the shortage at Pará should yet be made up, is another indication that we are to have an era of firmer prices in rubber.

The featureless condition of the market for Pará rubber has been reflected in the movement of other grades. The fairly good demand for Centrals which existed a month ago has fallen off. The better sorts at one time were so scarce that manufacturers began buying the cheaper, sending up prices for the latter temporarily, but now stocks of Centrals are accumulating. The market for Africans remains unchanged, the condition being one of dullness.

The latest quotations in the New York market are:

Pará, fine, new t a...	72 @73	Sierra Leone.....	25@42
Pará, fine, old.....	76 @79	Benguela	44@45
Pará, coarse, new t a	47 @54	Kongo Ball.....	36@40
Pará, coarse, old.....		Cameroon Ball.....	35@36
Caucho(Peruvian)strip	47 @48	Flake, Ord. and Lump..	23@24
Caucho (Peruvian) ball	52 @53	Accra Flake.....	15@18
Mangabeira, sheet....	38 @41	Liberian Flake.....	26@27
Esmeralda, sausage..	52 @52½	Primest Pinky Madr...	60@62
Guayaquil, strip.....	36 @43	Madagascar, black.....	43@45
Nicaragua, scrap	50 @52	Borneo.....	26@45
Nicaragua, sheet....	48 @49	Gutta-percha, fine grade	1.30
Thimbles.....	35 @36	Gutta-percha, medium..	1.00
Tongues.....	35 @37	Gutta-percha, hard white	85

The statistical position of Pará rubber in New York and elsewhere is as follows, the figures expressing tons of 1000 kilograms:

	Fine and Medium.	Coarse.	Total.	Totals 1894.
Stock, March 31.....	540	87	627	= 1461
Arrivals, April.....	643	262	905	= 974
Aggregating.....	1183	349	1523	= 2435
Deliveries, April.....	819	251	1070	= 970
Stock, April 30.....	364	98	462	= 1465

	1895.	1804.
Stock in England, April 30.....	1396	1350
Deliveries in England, April.....	575	650
Pará receipts, April.	840	970
Stock in Pará, April 30.....	365	471
World's supply April 30 (excluding Caucho).....	3173	4372
Pará receipts since July 1.....	17,845	18,130

In regard to the financial situation, Messrs. Simpson & Beers, brokers in crude India-rubber and commercial paper (New York), advise us as follows:

"In April a good demand existed for commercial paper, at from 4@6 per cent., viz.: First-class endorsed receivables at 4@4½ per cent. three to four months to run, and 4 to 6 months, 5 per cent. Single-name, three to six months to run, at 5@6 per cent. During the last of April the banks increased their reserves several millions. We are glad to note a continued improvement in general business, and an increase in wages in several sections of the country."

IMPORTS FROM PARA.

THE receipts of India-rubber direct from Pará and Manáos at the port of New York since our last publication are reported in detail below, the figures referring to pounds:

April 2.—By the steamer *Dona Maria*, from Pará:

	Fine.	Medium.	Coarse.	Caucho.	Total.
Hagemeyer & Brunn.....	159,800	26,100	60,200	2,600	248,700
New York Commercial Co.	14,600	300	2,800	.....	17,700
Reimers & Meyer	12,200	1,800	6,200	....	20,200
Boston Rubber Shoe Co...	12,100	1,100	5,500	.....	18,700
Joseph Banigan.....	12,500	1,400	5,300	2,100	21,300
Kunhardt & Co.....	10,000	2,900	.....	.....	12,900
To Order.....	10,000	1,800	2,100	.....	13,900
Totals.....	231,200	35,400	82,100	4,700	353,400

April 5.—By the steamer *Amazonense*, from Pará:

New York Commercial Co.	283,500	57,500	102,500	7,700	451,200
Reimers & Meyer	100,000	16,700	52,900	55,700	225,300
Boston Rubber Shoe Co...	30,800	33,100	34,800	23,900	122,600
Lawrence Johnson & Co...	11,400	12,500	25,500	.....	49,400
O. G. Mayer & Co.....	36,000	.....	7,100	.....	43,100
Shipton Green.....	6,000	400	4,600	.....	11,000
Totals.....	467,700	120,200	227,400	87,300	902,600

April 9.—By the steamer *Fluminense*, from Pará:

New York Commercial Co.	118,000	18,400	63,000	4,100	203,500
Lawrence Johnson.....	10,000	2,500	15,000	.....	27,500
Boston Rubber Shoe Co...	64,800	8,500	24,900	.....	98,200
Joseph Banigan.....	34,800	6,000	20,800	600	62,200
Reimers & Meyer	100,700	12,200	42,700	27,700	189,300
O. G. Mayer & Co.....	10,800	5,500	.....	.....	16,300
Shipton Geeen.....	6,700	2,100	2,000	.....	10,800
P. Lima	1,300	.....	2,400	.....	3,700
C. Ahrenfeldt & Son.....	8,000	.....	19,100	34,600	61,700
Totals.	361,100	55,200	189,900	67,000	673,200

April 26.—By the steamer *Gregory*, from Pará:

New York Commercial Co.	28,600	6,000	21,100	1,800	57,500
Reimers & Meyer.....	47,800	23,200	54,200	33,300	158,500
George C. Cowl.....	2,800	1,000	7,400	. ...	11,200
Totals.....	79,200	30,200	82,700	35,100	227,200

May 4.—By the steamer *Origen*, from Pará:

New York Commercial Co.	58,800	11,900	31,500	3,100	105,300
Reimers & Meyer.....	51,400	9,300	33,300	2,800	96,800
Boston Rubber Shoe Co...	40,000	10,300	10,000	64,600	124,900
Joseph Banigan	40,000	10,400	9,800	300	60,500
Shipton Green	2,200	400	2,700	74,100	79,400
O. G. Mayer & Co.....	5,700	2,800	1,400	.....	9,900
George C. Cowl.....	1,400	.....	3,400	.....	4,800
Lawrence Johnson & Co...	8,300	4,900	31,100	.....	44,300
Kunhardt & Co.....	11,800	3,800	.....	.....	15,600
C. Ahrenfeldt & Son.....	1,000	.....	22,800	16,200	40,000
Totals.....	220,600	53,800	146,000	161,100	581,500

April Imports from Pará.	2,156,400
March Imports.....	3,611,700
February Imports	2,274,400
January Imports.....	2,869,500
April, 1894.....	2,566,868
April, 1893.....	3,881,400

OTHER NEW YORK ARRIVALS.

BELOW will be found in detail the imports at New York, during April, 1895, of India-rubber from Mexico, Central America, and South America, other than Pará grades; also, arrivals at New York of African and East Indian sorts:

CENTRALS.

	POUNDS.
APRIL 9.—By the *Ailsa*=Cartagena:	
Kunhardt & Co.	1,500
Ellinger Bros.	500
Flint & Co.	3,000
Total	5,000
APRIL 9.—By the *Eldorado*=New Orleans:	
W. H. Crossman & Bro.	5,500
F. H. Robinson	2,500
Total	8,000
APRIL 10.—By the *Seneca*=Mexico:	
H. W. Peabody & Co.	2,000
E. Steiger & Co.	1,200
H. Marquardt & Co.	1,500
J. Menendez & Co.	600
J. W. Wilson & Co.	500
J. Agostini	200
E. Zaranz & Co.	200
Total	6,200
APRIL 10.—By the *Brig Carib*=Truxillo:	
Eggers & Heinlein	3,500
Jose Agostini	500
K. Mandell & Co.	400
Total	4,400
APRIL 12.—By the *Alliance*=Colon:	
Flint & Co.	5,100
Roldan & Van Sickel	2,780
G. R. Cottrell & Co.	1,520
D. A. de Lima & Co.	1,517
A. Santos & Co.	11,390
J. M. Ceballos & Co.	740
G. Amsinck & Co.	600
Piza Nephews & Co.	353
Total	12,000
APRIL 13.—By the *Galileo*=Bahia:	
Reimers & Meyer	7,000
APRIL 14.—By the *Jamaica*=Greytown:	
G. Amsinck & Co.	13,500
Munoz & Espriella	5,000
A. P. Strout	5,000
A. N. Rotholz	500
G. R. Cottrell & Co.	400
K. Mandell & Co.	200
W. R. Grace & Co.	200
Total	24,800
APRIL 15.—By the *Creole Prince*=Bahia:	
New York Commercial Co.	4,000
APRIL 16.—By the *Hudson*=New Orleans:	
Earle Brothers	10,000
F. H. Robinson	11,200
Total	22,200
APRIL 17.—By the *Seneca*=Mexico:	
H. Marquardt & Co.	1,000
Menendez	500
Louis M. Chemedlin	100
Total	1,600
APRIL 21.—By the *Regulus*=Cape Gracias:	
Eggers & Heinlein	100
Graham, Hinkley & Co.	100
Total	200
APRIL 22.—By the *City of Pará*=Colon:	
J. Aparicio & Co.	2,220
Eggers & Heinlein	1,922
S. Samper	1,277
F. Ferrer	1,059
D. A. de Lima & Co.	1,724
G. R. Cottrell & Co.	1,085
Flint & Co.	908
Munoz & Espriella	860
Elmenhorst & Co.	644
H. Marquardt & Co.	420
A. P. Strout	94
Total	12,213
APRIL 22.—By the *Cevic*=Liverpool:	
Reimers & Meyer	5,000
APRIL 22.—By the *Advance*=Colon:	
Flint & Co.	7,800
A. Santos & Co.	5,728
Roldan & Van Sickle	5,560
W. R. Grace & Co.	425
I. Brandon & Bros.	246
Total	19,759
APRIL 22.—By the *Excelsior*=New Orleans:	
Earle Brothers	7,500
F. H. Robinson	2,000
Total	9,500
APRIL 22.—By the *Louisiana*=New Orleans:	
A. T. Morse	3,300
F. H. Robinson	3,200
Total	6,500
APRIL 24.—By the *Yucatan*=Mexico:	
J. W. Wilson & Co.	1,500
H. W. Peabody & Co.	1,000
H. Marquardt & Co.	1,000
H. A. Forrest & Co.	500
J. Menendez & Co.	200
Total	4,200
APRIL 25.—By the *Gregory*=Maranham:	
G. Amsinck & Co.	5,500
W. H. Crossman & Bros.	500
Total	6,000
APRIL 26.—By the *Polasia*=Havre:	
O. G. Mayer & Co.	8,000
APRIL 30.—By the *Alene*=Port Limon:	
A. N. Rotholz	1,200
Munoz & Espriella	300
Total	1,500
Total Centrals for April	168,072
Total for March	290,283
Total for February	239,251
Total for January	341,029

AFRICANS.

	POUNDS.
APRIL 4.—By the *Nomadic*=Liverpool:	
George A. Alden & Co.	12,000
APRIL 12.—By the *Boric*=Liverpool:	
Reimers & Meyer	24,000
George A. Alden & Co.	23,000
Total	47,000
APRIL 9.—By the *Massachusetts*=London:	
Reimers & Meyer	5,400
APRIL 11.—By the *Cevenum*=Lisbon:	
George A. Alden & Co.	100,400
Reimers & Meyer	22,900
Total	123,300
APRIL 13.—By the *Lucania*=Liverpool:	
Reimers & Meyer	19,700
APRIL 12.—By the *Britannic*=Liverpool:	
W. A. Brown	4,500
APRIL 14.—By the *Russia*=Hamburg:	
Reimers & Meyer	8,800
Otto G. Mayer & Co.	5,000
Total	13,800
APRIL 16.—By the *Manitoba*=London:	
Reimers & Meyer	29,000
APRIL 17.—By the *Majestic*=Liverpool:	
George A. Alden & Co.	22,000
Wm. A. Brown & Co.	15,000
Total	37,000
APRIL 22.—By the *Cevic*=Liverpool:	
George A. Alden & Co.	13,500
Reimers & Meyer	17,000
Total	30,500
APRIL 22.—By the *Mississippi*=London:	
Windmuller & Roelker	1,700
APRIL 26.—By the *Phœnicia*=Hamburg:	
George A. Alden & Co.	4,300
APRIL 29.—By the *Tauric*=Liverpool:	
Reimers & Meyer	22,000
H. H. Smythe	9,000
George A. Alden & Co.	6,000
Total	37,000
APRIL 30.—By the *Mohawk*=London:	
Windmuller & Roelker	2,000
Total Africans for April	367,200
Total for March	374,554
Total for February	441,500
Total for January	582,000

EAST INDIAN.

[INCLUDING PONTIANAK.]

	POUNDS.
APRIL 6.—By the *New York*=Southampton:	
George A. Alden & Co.	4,000
APRIL 7.—By the *Scandia*=Havre:	
To Order (Pontianak)	77,000
APRIL 9.—By the *Massachusetts*=London:	
Reimers & Meyer	3,000
APRIL 13.—By the *Paris*=Southampton:	
W. A. Brown & Co.	2,000
APRIL 16.—By the *Manitoba*=London:	
George A. Alden & Co. (Pontianak)	66,000
APRIL 22.—By the *Mississippi*=London:	
George A. Alden & Co. (Pontianak)	40,000
APRIL 23.—By the *Glenshiel*=Singapore:	
George A. Alden & Co. (Pontianak)	104,000
Reimers & Meyer (Pontianak)	120,000
To Order (Pontianak)	25,000
Total	249,000
APRIL 27.—By the *New York*=Southampton:	
To Order	3,000
APRIL 30.—By the *Mohawk*=London:	
Reimers & Meyer	7,000
Total East Indian for April	451,000
Total for March	487,300
Total for February	100,000
Total for January	28,800

RECAPITULATION.

	POUNDS.
Pará—direct imports	2,156,400
Centrals	168,072
Africans	367,200
East Indian	451,000
Total at New York for April	3,142,672
Total for March	4,858,383
Total for February	3,080,151
Total for January	4,038,229

BOSTON ARRIVALS.

	POUNDS.
APRIL 2.—By the *Pavonia*=Liverpool:	
Reimers & Meyer—Africans	18,000
APRIL 2.—By the *St. Rondns*=Liverpool:	
Reimers & Meyer—Africans	20,000
APRIL 9.—By the *British Queen*=London:	
George A. Alden & Co.—Africans	2,400
APRIL 14.—By the *Roman*=Liverpool:	
George A. Alden & Co.—Africans	7,360
APRIL 19.—By the *Belgian King*=Antwerp:	
George A. Alden & Co.—Africans	8,100
APRIL 20.—By the *Barrowmore*=London:	
George A. Alden & Co.—Africans	17,200
APRIL 21.—By the *Catalonia*=Liverpool:	
George A. Alden & Co.—Africans	2,300
Reimers & Meyer—Africans	4,400
APRIL 24.—By the *Feliciana*=Hamburg:	
Reimers & Meyer—Africans	8,000
George A. Alden & Co.—Africans	20,000
APRIL 26.—By the *Parkmore*=London:	
George A. Alden & Co.—Africans	5,800
APRIL 31.—By the *Cambroman*=Liverpool:	
Reimers & Meyer—Africans	25,000
Total at Boston for April	138,560
Total for March	106,900
Total for February	127,100
Total for January	243,950

NEW ORLEANS.

APRIL.

	POUNDS.	VALUE.
From Nicaragua	47,789	$17,974